# NAD® T 762i

## Surround Sound Receiver

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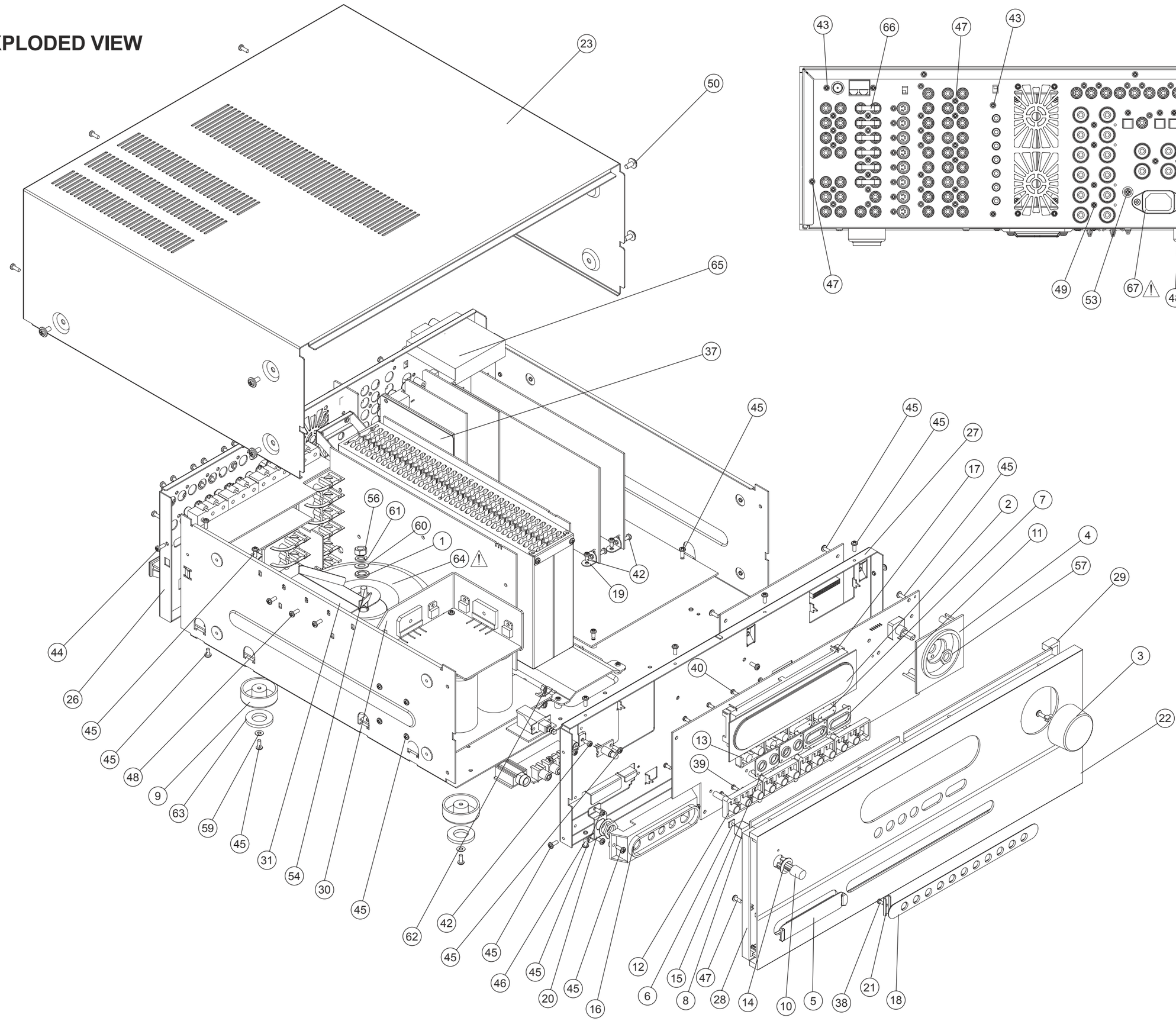
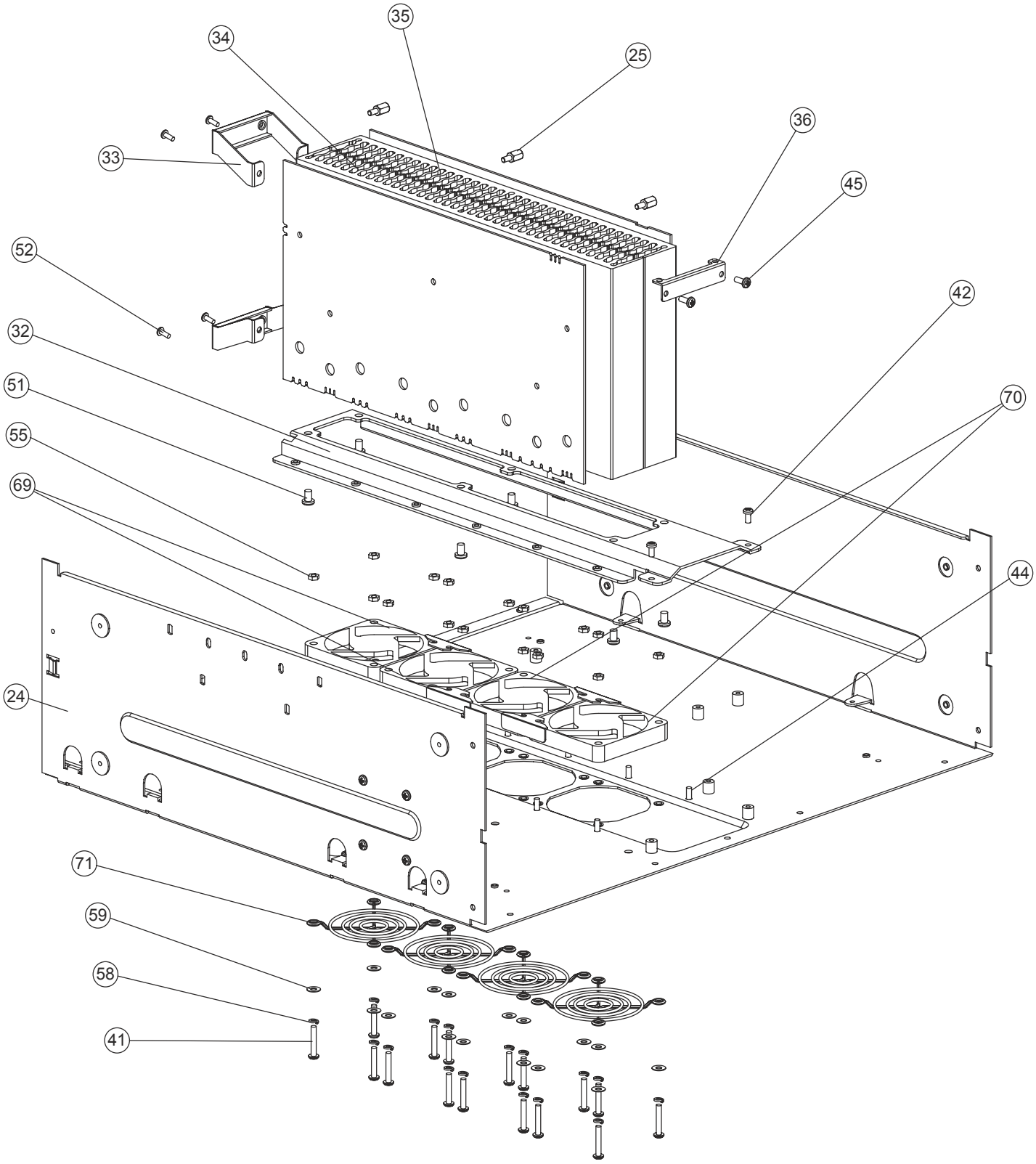
***ISSUE DATE: 30 MAR 2004***

# T 762i EXPLODED VIEW



# T 762i EXPLODED VIEW



# T 762i EXPLODED VIEW PARTS LIST

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 02-0000019-00-00 | NYLON OD16.5 X 9.3 X 3.5mm | 1 |
| 2 | 10-0752001-00-10 | WINDOW LENS | 1 |
| 3 | 11-0752002-72-00 | VOLUME KNOB ASSY | 1 |
| 4 | 10-0752005-71-00 | VOLUME BEZEL | 1 |
| 5 | 10-0752007-01-00 | VIDEO COVER | 1 |
| 6 | 10-0752011-00-00 | LED LENS | 1 |
| 7 | 10-0752012-01-00 | RACKER BUTTON | 2 |
| 8 | 10-0752015-01-02 | LED BEZEL | 1 |
| 9 | 10-0752017-01-00 | PLASTIC FOOT | 4 |
| 10 | 10-0752022-01-00 | POWER BUTTON | 1 |
| 11 | 10-0752025-01-00 | RACKER BEZEL | 2 |
| 12 | 10-0752032-01-00 | INPUT BUTTON | 4 |
| 13 | 10-0752042-01-00 | DUO BUTTONS | 2 |
| 14 | 10-0752045-01-00 | POWER BUTTON BEZEL | 1 |
| 15 | 10-0752055-01-00 | DUO BEZEL | 2 |
| 16 | 10-0752065-01-00 | VIDEO HOUSING | 1 |
| 17 | 10-0752075-00-00 | DISPLAY BRACKET | 1 |
| 18 | 10-0762035-71-00 | INPUT BUTTON LOZENGE | 1 |
| 19 | 11-0570075-80-01 | L BRACKET | 2 |
| 20 | 11-0752065-80-00 | PHONE BRACKET | 1 |
| 21 | 11-0752075-80-00 | DUMMY BRACKET | 1 |
| 22 | 11-0762000-95-11 | FASCIA | 1 |
| 23*AH | 11-0762003-85-13 | TOP COVER (AH) | 1 |
| 23*C | 11-0762013-85-13 | TOP COVER (C) | |
| 24 | 11-0762004-80-04 | BOTTOM CHASSIS | 1 |
| 25 | 11-0762005-80-00 | HEX SPACER AF5.5 H8+6 | 10 |
| 26*AH | 11-0762006-94-12 | REAR PANEL(AH) | 1 |
| 26*C | 11-0762016-94-12 | REAR PANEL (C) | |
| 27 | 11-0762025-80-01 | SUBFASCIA | 1 |
| 28 | 11-0762028-95-00 | SIDE CAP L | 1 |
| 29 | 11-0762038-95-00 | SIDE CAP R | 1 |
| 30 | 11-0762048-80-01 | HEATSINK- RECTIFER | 1 |
| 31 | 11-0762065-80-00 | XORMER SUPPORT BRACKET | 1 |
| 32 | 11-0762085-80-00 | LARGE FAN MOUNTING BRACKET | 1 |
| 33 | 11-0762095-80-00 | HTSK SUPPORT BRACKET | 2 |
| 34 | 11-0762098-94-00 | NEW EXTRUDED HTSK LEFT | 1 |
| 35 | 11-0762108-94-00 | NEW EXTRUDED HTSK RIGHT | 1 |
| 36 | 11-0752045-80-00 | HEATSINK MOUNTING BRACKET | 1 |
| 37 | 12-0762011-70-00 | FIBER PAPER 133 X 98 X 0.8mm | 1 |
| 38 | 13-0260500-02-00 | SELF TAP SCREW 2.6 X 5 P/H TYPE B NI PLT | 1 |
| 39 | 13-0260600-02-00 | SELF TAP SCREW 2.6 X 6 P/H TYPE B NI PLT | 9 |
| 40 | 13-0260803-02-00 | SELF TAP SCREW 2.6 X 8 B/H TYPE B NI PLT | 16 |
| 41 | 14-0300180-02-00 | MACHINE SCREW M3 X 18 P/H NI PLT | 16 |
| 42 | 14-0300600-02-00 | MACHINE SCREW M3 X 6 P/H NI PLT | 20 |
| 43 | 14-0300600-04-00 | MACHINE SCREW M3 X 6 P/H BLK | 4 |
| 44 | 14-0300600-52-00 | SELF TAP SCREW 3 X 6 P/H NI-PLT TYPE B | 21 |
| 45 | 14-0300800-53-00 | SELF TAP SCREW 3 X 8 B/B ZINC PLATED | 39 |
| 46 | 14-0350803-52-00 | TAPTITE SCREW 3.5 X 8.0 B/H TYPE B NI PLT | 5 |
| 47 | 14-0300803-54-00 | TAPTITE SCREW 3 X 8 B/H TYPE B BLK PLT | 58 |
| 48 | 14-0300804-54-00 | TAPTITE SCREW M3 X 8 K/H TYPE B BLK PLT | 5 |

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 49 | 14-0301000-54-00 | TAPTITE SCREW 3 X 10 P/H TYPE B BLK | 5 |
| 50 | 14-0400802-04-00 | MACHINE SCREW M4 X 8 WASHER HEAD BLK | 6 |
| 51 | 14-0400803-52-00 | TAPTITE SCREW 4 X 8 B/H NI TYPE-B | 6 |
| 52 | 14-0400803-54-00 | TAPTITE SCREW 4 X 8 B/H BLK TYPE-B | 4 |
| 53 | 14-0401002-04-00 | MACHINE SCREW M4 X 10 WASHER HEAD BLK | 1 |
| 54 | 14-0801005-03-02 | HEX.BOLT M8 LENGTH=100mm ZN PLATED | 1 |
| 55 | 15-0300240-05-20 | NUT M3 X 2.4mm | 16 |
| 56 | 15-0807600-05-30 | HEX NUT M8 X 6.5 THK | 1 |
| 57 | 15-0900220-11-30 | NUT ZINC PLATED M9.0 X 2.2mm 11p | 1 |
| 58 | 16-0320560-09-20 | SPRING WASHER I/D 3.2 X O/D 5.6 0.9mm THK | 44 |
| 59 | 16-0350080-04-35 | STEEL WASHER I/D 3.5 X O/D 8.0 0.4mm ZINC PLT | 22 |
| 60 | 16-0850160-10-30 | METAL WASHER ID8.5 X OD16 X 1.0mm NI PLT | 1 |
| 61 | 16-0851500-12-30 | SPRING WASHER I/D 8.5 X O/D 12.5 X 1.9THK | 1 |
| 62 | 17-0500960-00-01 | PCB SUPPORTER H=9.6mm PCB HOLE 4mm | 3 |
| 63 | 17-1402603-30-22 | RUBBER FOOT I/D14 X O/D26 X 3 PORON HH-48C | 4 |
| 64 ⚠ | 25-0090056-00-21 | XFORMER PW TOROIDAL 120V/240V TI-0130203 ISS6 | 1 |
| 65*AH | 29-4000003-00-38 | AM/FM TUNER MODULE KST-MB114MA1-22 | 1 |
| 65*C | 29-4000002-00-38 | AM/FM TUNER MODULE KST-MB114MA1-23 | |
| 66 | 34-0061030-00-67 | JUMPER PLUG PITCH 14mm | 6 |
| 67 ⚠ | 34-0101000-00-67 | AC SOCKET IEC 15A/250V | 1 |
| 68*AH ⚠ | 34-0101001-00-70 | AC OUTLET US POLARIZED 3512-MITIBKUC | 1 |
| 68*C ⚠ | 34-0100002-00-78 | AC OUTLET EURO CEE 7 2.5A/250V A302D0060P | |
| 69 | 37-2011230-00-63 | FAN DC 12V 0.09A 3000RPM W/450mm CONNECTOR | 2 |
| 70 | 37-2011230-01-63 | FAN DC 12V 0.09A 3000RPM W/350mm CONNECTOR | 2 |
| 71 | 39-0000008-00-63 | FAN GUARD 60mm DFG-60 | 4 |

**NOTE: THE COMPONENTS IDENTIFIED BY ⚠ MARK ARE CRITICAL FOR RISK OF FIRE AND ELECTRICAL SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.**

<*AH > : USA, CANADIAN MODEL ONLY.

<*C > : EUROPEAN MODEL ONLY.

DRAFT DATE: Apr04

NAD

# SERVICE MANUAL

# T 762

## AV SURROUND SOUND RECEIVER

T 762

AV SURROUND SOUND RECEIVER

# SAFETY INFORMATION

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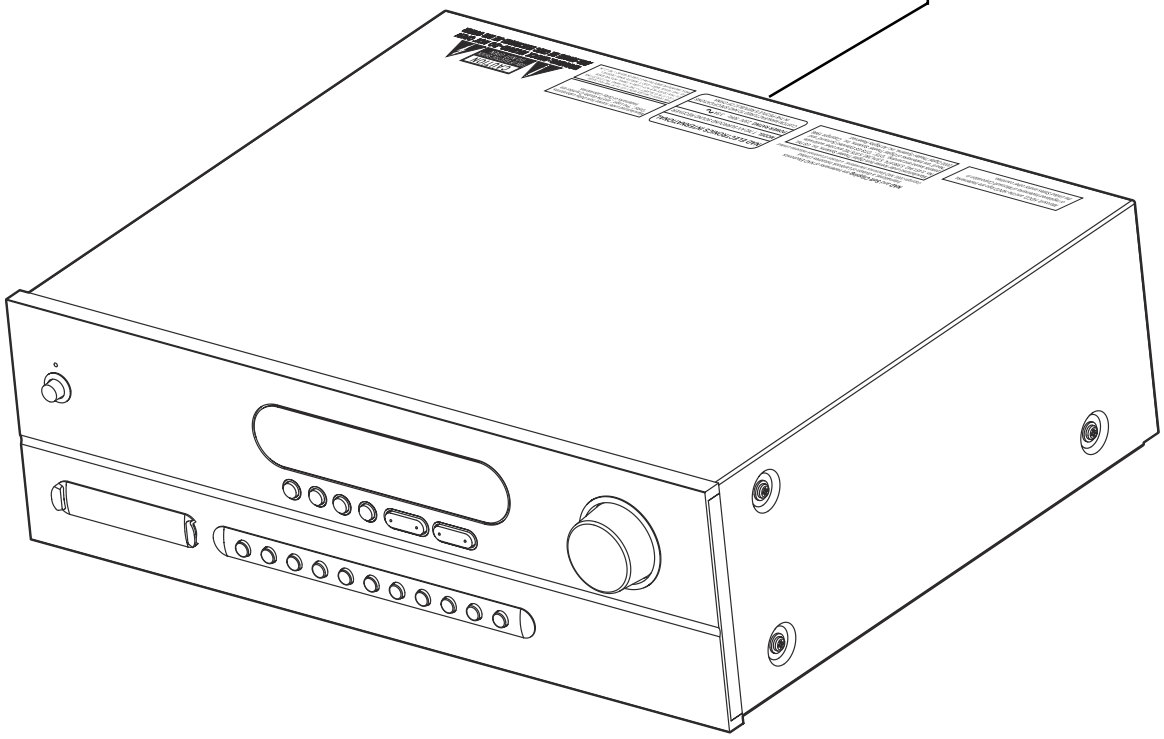
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, (2) THIS DEVICE MUST ACCEPT INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

**WARNING: SHOCK HAZARD - DO NOT OPEN**
**AVIS: RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR**



# SERVICE SAFETY PRECAUTIONS

## 1. Replacing the fuses

CAUTION:
FOR CONTINUED PROTECTION AGAINST THE RISK OF FIRE REPLACE ONLY WITH SAME TYPE OF FUSE.

| Reference Designator | Part Number | Description |
|---|---|---|
| F751*AH | 33-0191001-00-88 | Fuse 10A 250V Time Lag 5x20 MM UL/CSA |
| F751*C | 33-0181006-00-88 | Fuse 6.3A 250V Time Lag 5x20 MM UL/CSA/SEMKO/VDE |
| F752*AH | 33-0111006-00-48 | Fuse 1.6A 250V Time Lag 5x20 MM UL/CSA/VDE/SEMKO |
| F752*C | 33-0151006-00-48 | Fuse 800mA 250V Time Lag 5x20 MM UL/CSA/VDE/SEMKO |

NOTE:
<*AH > : USA, CANADIAN MODEL ONLY.
<*C > : EUROPEAN MODEL ONLY.

## 2. Safety check out

(Only U.S.A. model)
Before returning the product to the customer, make leakage current or resistance measurements to determine that exposed parts are acceptably insulated from supply circuit.

Parts marked with the symbol ⚠ are critical with regard to the risk of fire and electric shock.
Replace only with parts recommended by the manufacturer.

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# SPECIFICATIONS

## POWER AMPLIFIER SECTION

| | | |
|---|---|---|
| Rated distortion | (Rated power level into 8 ohms, THD 20 Hz-20 kHz FL/C/FR) | ≤ **0.1 %** |
| | (Rated power level into 8 ohms, THD 20 Hz-20 kHz SL/SR/BS) | ≤ **0.1 %** |
| Input Sensitivity | (ref. 8 ohms, 1 kHz) | **220 ± 20 mV** |
| S/N Ratio | (A-wtd, 1kHz, 1 W, 8 ohm, SL/SR/BL) | **≥ - 72 dB** |
| Frequency Response | (20 Hz - 20 kHz) | **0 ± 1.0 dB** |
| Channel Balance | (1 dB to -40 dB, 1 kHz) | ≤ **2 dB** |
| | (-41 dB to -50 dB, 1 kHz) | ≤ **3 dB** |
| Audio muting at 1 kHz | | ≥ **55 dB** |
| Subwoofer out, 500 mV in | (THD at 2 V O/P, 100 Hz) | ≤ **0.5 %** |
| Crosstalk | (500 mV input, 10 W, 1 kHz) | **≥ -57 dB** |

**Controls**

| | | |
|---|---|---|
| Bass | (at 500 mV in, 1 W out, 100 Hz) | **± 10 dB ± 2 dB** |
| Treble | (at 500 mV in, 1 W out, 10 kHz) | **± 10 dB ± 2 dB** |

## DOLBY DIGITAL SECTION

| | | | |
|---|---|---|---|
| Channel Difference(FL ref. Track 30) | | | **± 1.2 dB** |
| Frequency Resporse at Dolby config.2 | | SL Track 46 200 - 20 kHz | **± 0.8 dB** |
| | | SR Track 47 200 - 20 kHz | **± 0.8 dB** |
| | | C Track 44 200 - 20 kHz | **± 0.8 dB** |
| Harmonic Distortion | (1 W, Audio LPF, Dolby Congfig 1) | FL Track 65 997 Hz | ≤ **0.08 %** |
| | | FR Track 67 997 Hz | ≤ **0.08 %** |
| | | SL Track 68 997 Hz | ≤ **0.08 %** |
| | | SR Track 69 997 Hz | ≤ **0.08 %** |
| | | C Track 66 997 Hz | ≤ **0.08 %** |
| S/N Ratio | (31 for O/P 1 W, Track 35) | CCIR / ARM | **≥ 65 dB** |
| | | Audio LPF | **≥ 70 dB** |
| | | A-wtd | **≥ 70 dB** |
| Channel Separation | (1 W, 20 kHz LPF) | Track 65 997 Hz | **≥ 60 dB** |

## DOLBY PRO LOGIC II SECTION

**Frequency Resporse**

| | | | |
|---|---|---|---|
| I/P mode : L, R | : 1 V in, 1 W, Ch L/R | 40 Hz | **0 ± 2.0 dB** |
| | | 20 Hz | **0 ± 2.0 dB** |
| I/P mode : L=R | : 1 V in, 1 W, Ch /L/R | 40 Hz | **0 ± 2.0 dB** |
| | Ch C | 20 kHz | **0 ± 2.0 dB** |
| I/P mode : L=-R | : 1 V in, 1 W, Ch SL/SR | 40 Hz | **0 ± 2.0 dB** |
| | | 20 kHz | **0 ± 2.0 dB** |
| S/N Ratio (200 mV in, 1 W, A-WTD w/ 1 k termination) | | | |
| I/P mode : L, R | : 1 kHz, Ch L/R | | **≥ 65 dB** |
| I/P mode : L=R | : 1 kHz, Ch C | | **≥ 65 dB** |
| I/P mode : L=-R | : 1 kHz, Ch SL/SR | | **≥ 65 dB** |
| THD (2.2 V in, 1 W, w/ 80 kHz LPF, 1 kHz) | | | ≤ **0.2 %** |

## DTS SECTION

| | | | |
|---|---|---|---|
| Output Level (Vol 0 dB) | : FL/FR/C/SL/SR | Track 6 1 kHz | **0.5 ± 2.0 W** |
| Channel Difference (FL ref) | : FL/FR/C/SL/SR | Track 6 1 kHz | **± 1.0 dB** |
| Harmonic Distortion (Audio Filter) | : FL/FR/C/SL/SR | Track 10-14 1 kHz | **≤ 0.08 %** |
| Frequency Response (20 Hz to 20 kHz) | | Track 26-30 | **+2/-1.5** |
| Subwoofer Output Level | 1 kHz ref at pre-out (FL) | Play Track 10, charge to 15 | **10.5 ± 1.5 dB** |

## AM TUNER SECTION

Input level is expressed as the reading in open circuit of 75-ohm source impedance signal generator

| | | |
|---|---|---|
| Usable sensitivity | (999/1000 kHz) | **≤ 30 dBuV** |
| S/N Ratio | (5 mV in) | **≥ 38 dB** |
| THD | (5 mV in) | **≤ 3 %** |
| IF Rejection | (450 kHz) | **≤ 36 dB** |
| Image Rejection | (F+2xIF) | **≥ 28 dB** |
| Selectivity | | **≥ 17 dB** |
| Output | | **170 ± 20 mV** |
| Loop sensitivity | (20 dB S/N) | |
| | 999/1000 kHz | **≤ 66 dB** |
| | 603/600 kHz | **≤ 66 dB** |
| | 1404/1400 kHz | **≤ 66 dB** |
| Frequency Response | (100 - 2.3 kHz, 5 mV) | **± 6 dB** |

## FM TUNER SECTION

Input level is expressed as the reading in open circuit of 75-ohm source impedance signal generator

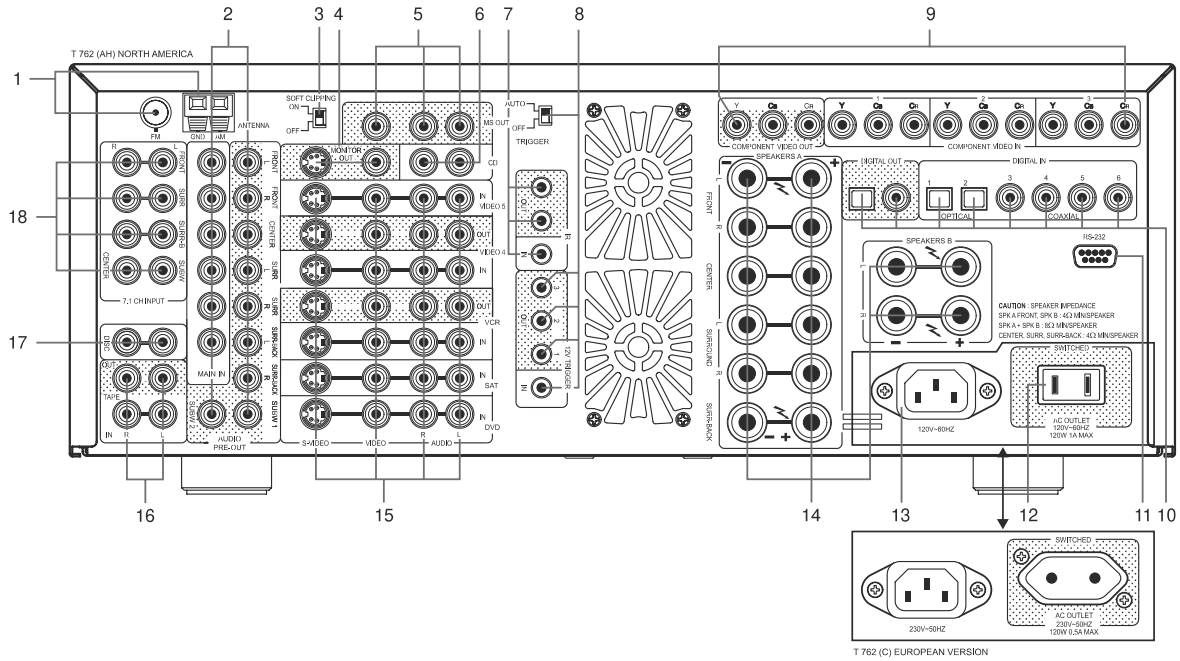
| | | | *C | *AH |
|---|---|---|---|---|
| Usable sensitivity | (98 MHz) | | **≤ 15 dBμV** | **≤ 15 dBuv** |
| S/N Ratio | (60 dB, IHF wtd) | Mono | **≥ 63 dB** | **≥ 63 dB** |
| | | Stereo | **≥ 63 dB** | **≥ 63 dB** |
| Frequency Response | (20 Hz - 15 kHz, 60 dBμ) | | **0 ± 1.5 dB** | **0 ± 1.5 dB** |
| Channel Separation | (60 dBμ) | 100 Hz | **≥ 30 dB** | **≥ 30 dB** |
| | | 1 k | **≥ 38 dB** | **≥ 38 dB** |
| | | 10 kHz | **≥ 30 dB** | **≥ 30 dB** |
| Alternate Channel Selectivity (40 dBμ, ± 400 kHz) | | | **≥ 60 dB** | **≥ 45 dB** |
| Capture Ratio | (40 dBμ) | | **≤ 3 dB** | **≤ 3 dB** |
| AM Suppression (60 dBμ, 100% Mod. FM, 30% Mod. AM) | | | **≥ 48 dB** | **≥ 48 dB** |
| Image Rejection | (119.4 MHz) | | **≥ 65 dB** | **–** |
| I.F. Rejection | (10.7 MHz) | | **–** | **≥ 78 dB** |
| Pilot Suppression | (98 MHz) | | **≥ 60 dB** | **≥ 60 dB** |
| THD (60 dBμ, L=R 75 kHz for AH, 40 kHz Dev for C) | | Mono | **≤ 0.25 %** | **≤ 0.25 %** |
| | | Stereo | **≤ 0.35 %** | **≤ 0.35 %** |
| Auto-Search Sensitivity | | On | **≥ 24 dBμ** | **≥ 24 dBμ** |
| | | Off | **≤ 15 dBμ** | **≤ 15 dBμ** |
| RDS decode Sensitivity | | | **≤ 26 dBμ** | **–** |

## PHYSICAL SPECIFICATIONS

| | |
|---|---|
| Dimensions (Width x Height x Depth) | **435 x 167 x 382 mm** |
| Net Weight | **18.50 Kg (40.70 lbs)** |
| Shipping Weight | **22.20 Kg (48.84 lbs)** |

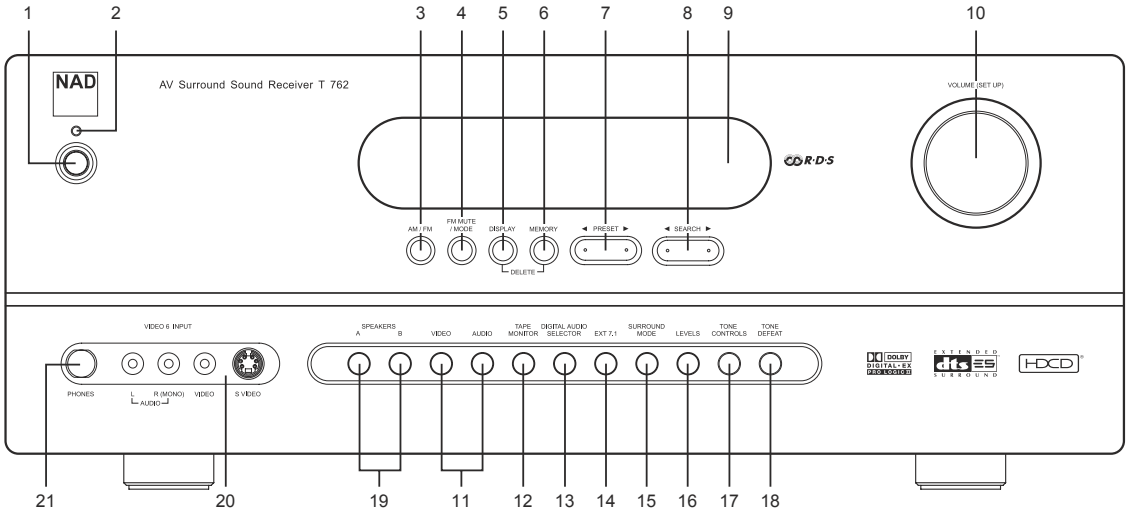
# REAR PANEL / FRONT PANEL VIEW

## REAR PANEL




1. FM & AM ANTENNA
2. MAIN IN / AUDIO PRE-OUTS / SUBWOOFER OUT
3. SOFT CLIPPING ON/OFF
4. MONITOR OUT
5. MS OUT (MULTISOURCE OUT)
6. CD INPUT
7. IR INPUT & OUTPUT
8. 12V TRIGGER INPUT & OUTPUT
9. COMPONENT VIDEO IN & COMPONENT VIDEO OUT
10. DIGITAL AUDIO INPUT & DIGITAL AUDIO OUTPUT
11. RS-232
12. SWITCHED AC OUTLETS
13. AC POWER INLET
14. SPEAKERS A & B
15. DVD, SAT, VCR, VIDEO 4 & VIDEO 5
16. TAPE INPUT & OUTPUT
17. DISC INPUT
18. 7.1 CH. INPUTS

## FRONT PANEL




1. POWER
2. STAND-BY
3. AM / FM
4. FM MUTE / MODE
5. DISPLAY
6. MEMORY
7. PRESET DOWN / UP
8. SEARCH DOWN / UP
9. VFL DISPLAY
10. VOLUME (SETUP)
11. VIDEO & AUDIO
12. TAPE MONITOR
13. DIGITAL AUDIO SELECTOR
14. EXT. 7.1
15. SURROUND MODE
16. LEVELS
17. TONE CONTROLS
18. TONE DEFEAT
19. SPEAKERS A & B
20. VIDEO 6 INPUT
21. PHONES

# DISASSEMBLY INSTRUCTIONS

1. Remove machine screws M4.0 x 8.0 (**1** to **6**) from the side panels.
Remove tapping screw 3.0 x 8.0 (**7** to **10**) from the back panel.
Refer to **Figure No. 1**.

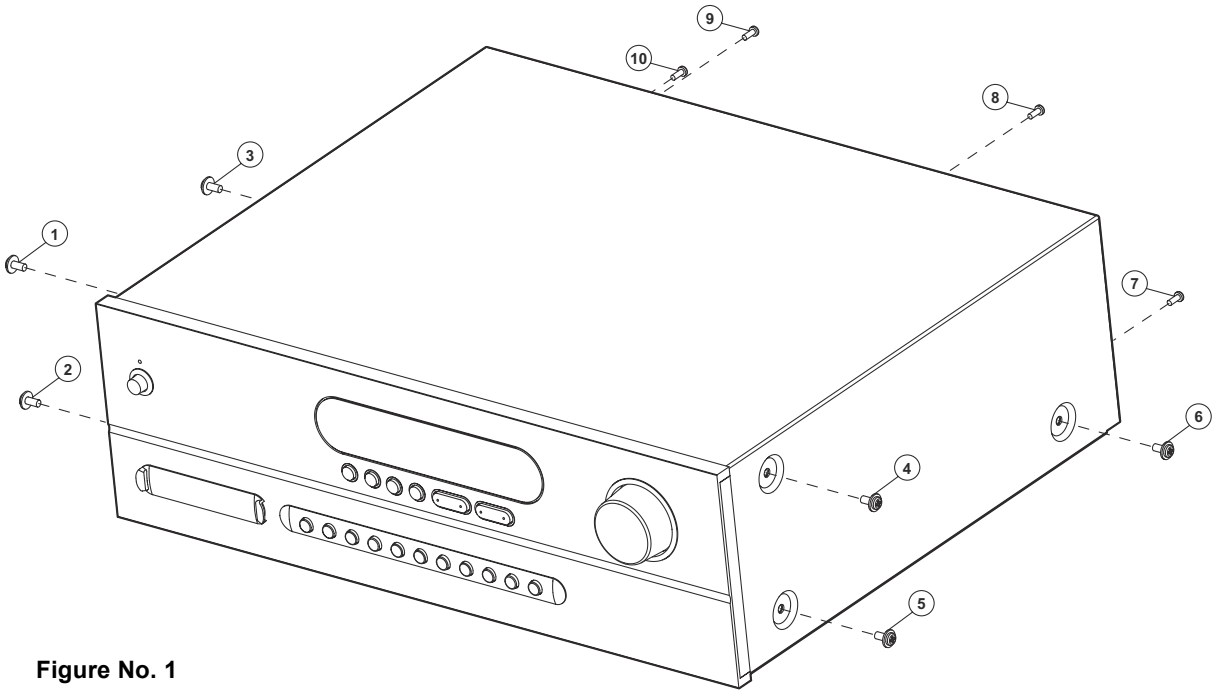



**Figure No. 1**

2. Pull both sides of the TOP COVER slightly outwards **11** and tilt approx. 35 ° and then remove in the direction as indicated by the arrow **12**. Refer to **Figure No. 2**.

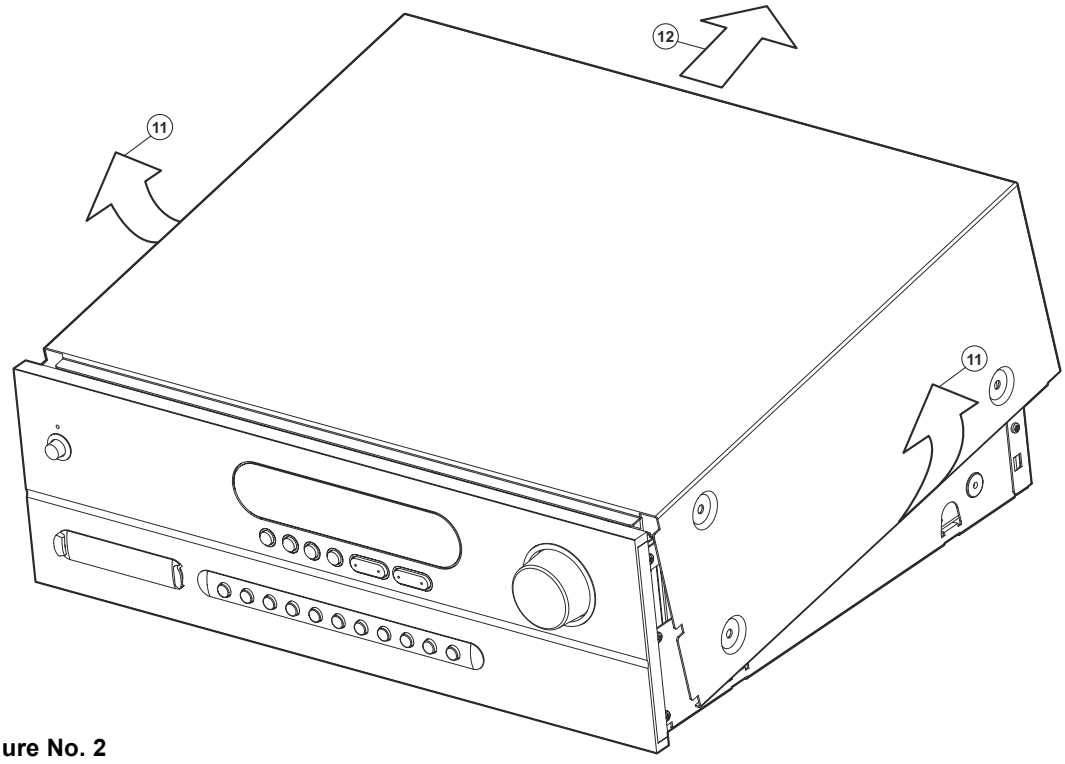
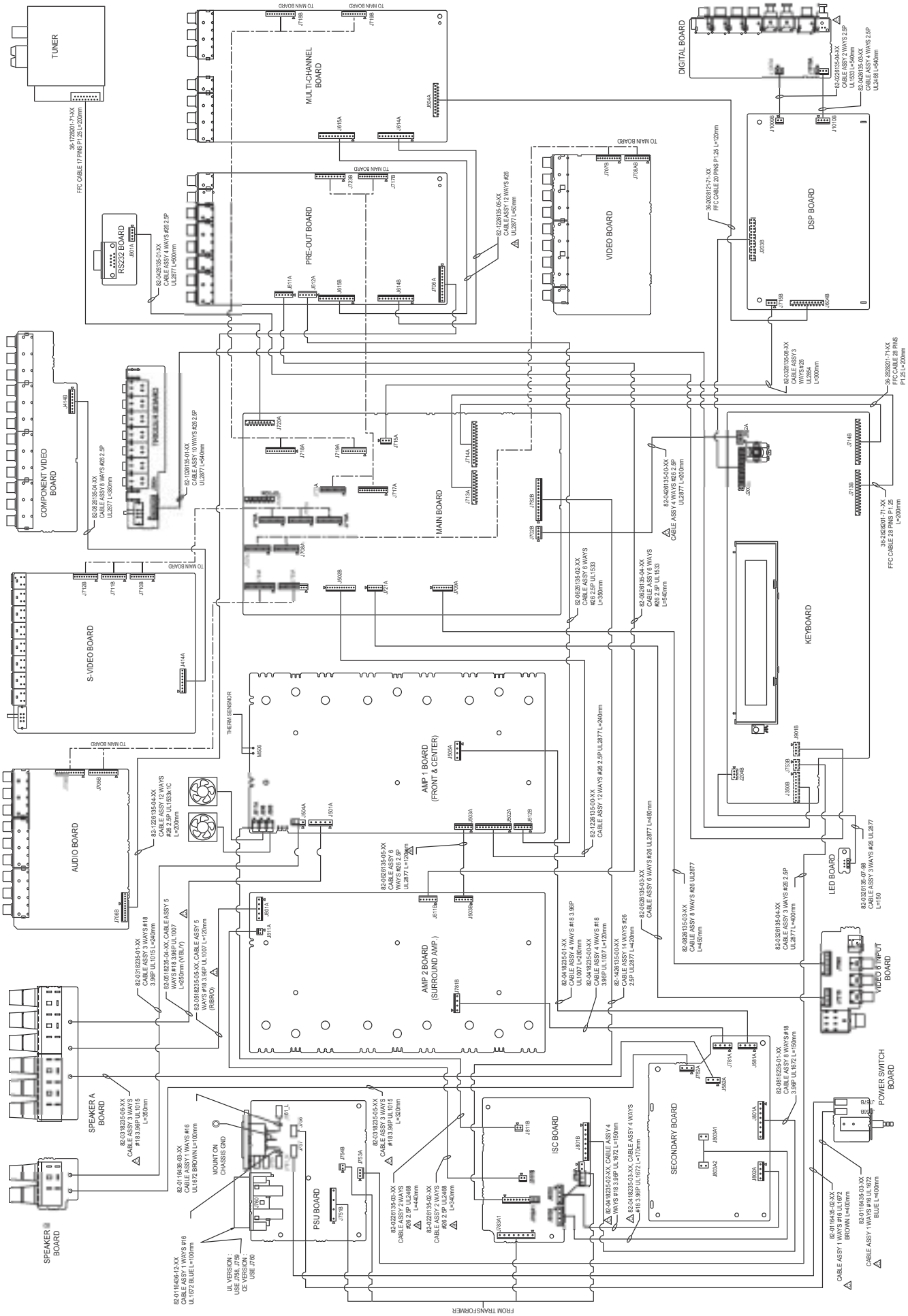
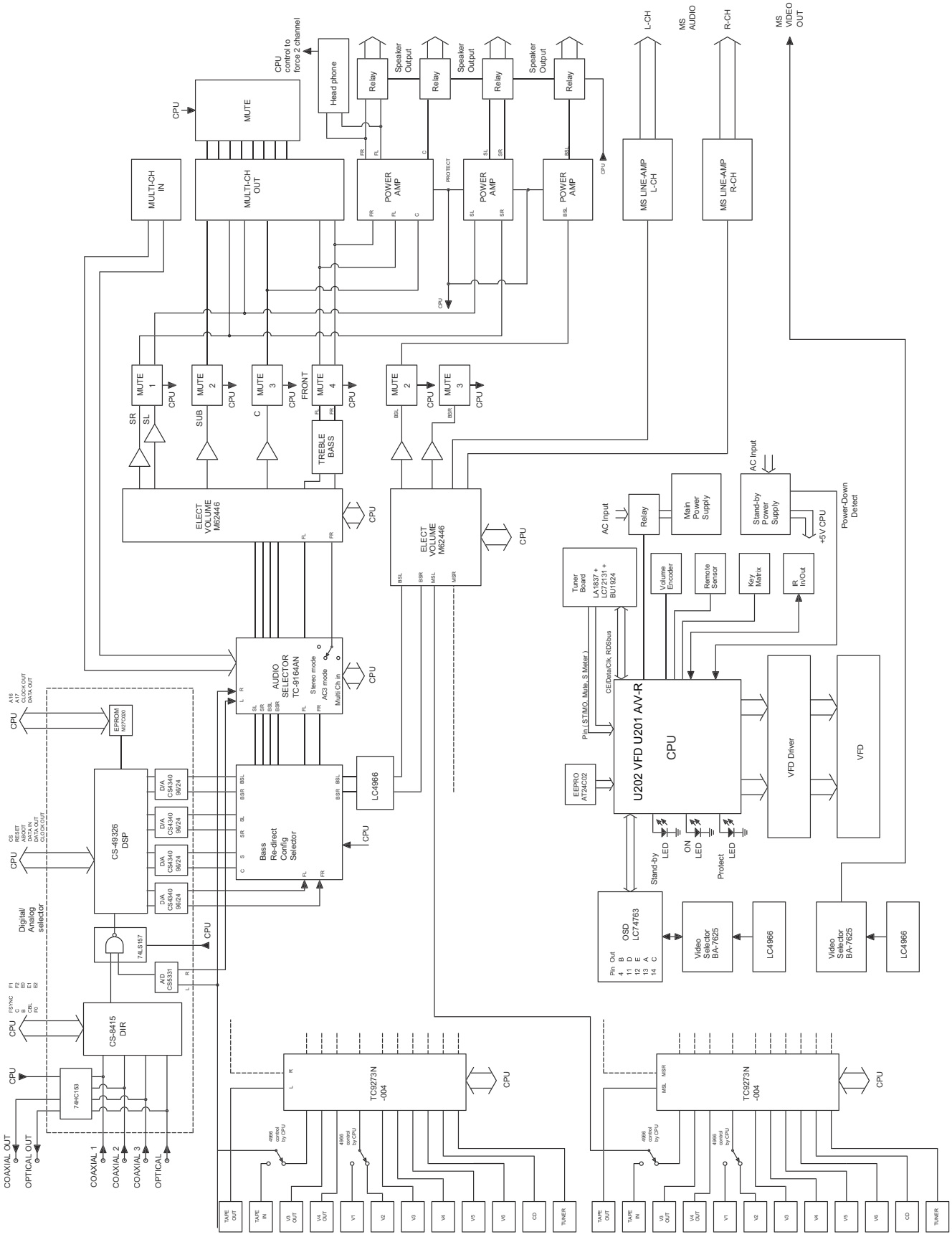



**Figure No. 2**

# WIRING DIAGRAM

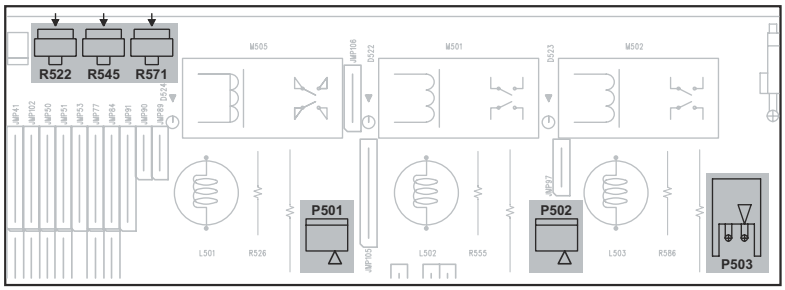


# BLOCK DIAGRAM

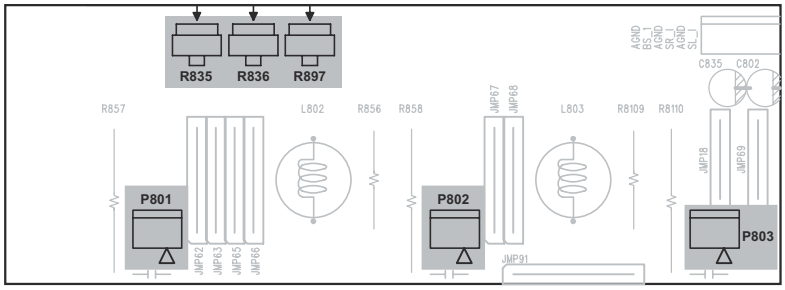


# ADJUSTMENT POINT DIAGRAM

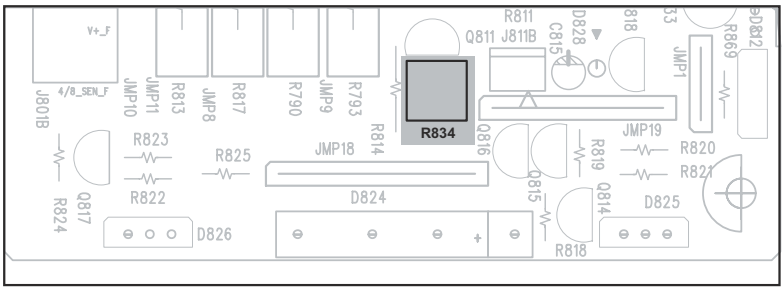
## FRONT/CENTER AMPLIFIER BOARD




## SURROUND AMPLIFIER BOARD




## ISC BOARD




# AMPLIFIER ADJUSTMENT

## Idle Current

1. Rotate R522 fully clockwise.
2. Connect DC millivoltmeter to P501 (i.e. Across half of R523, 0.22 Ohm resistor).
3. Turn on the unit.
4. Adjust R522 for 1mV reading on voltmeter.
5. Leave power on for at least 5 min, and check for idle current again.
6. Repeat for other channels.

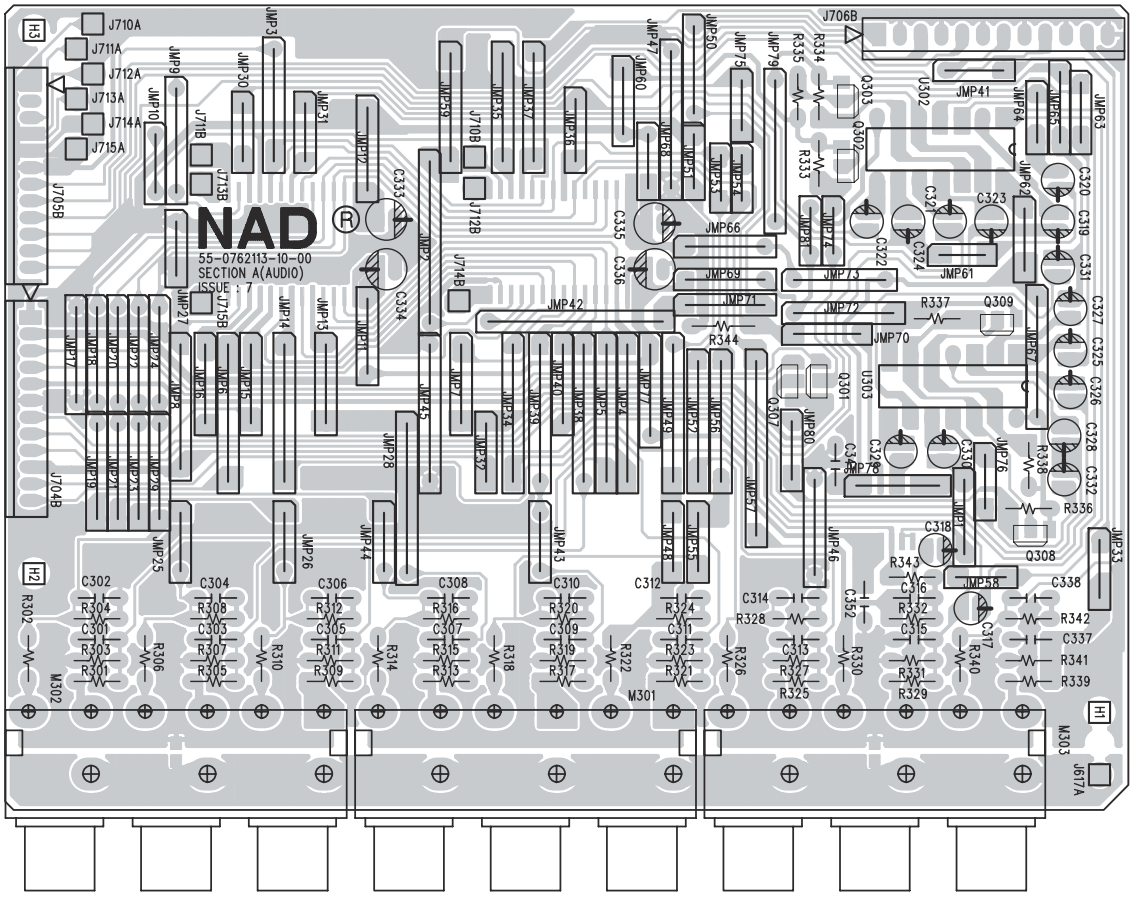
| CHANNEL | JUMPER | VR |
|---|---|---|
| FL | P503 | R571 |
| FR | P502 | R545 |
| C | P501 | R522 |
| SL | P801 | R835 |
| SR | P802 | R836 |
| BS | P803 | R897 |

## ISC Sensitivity

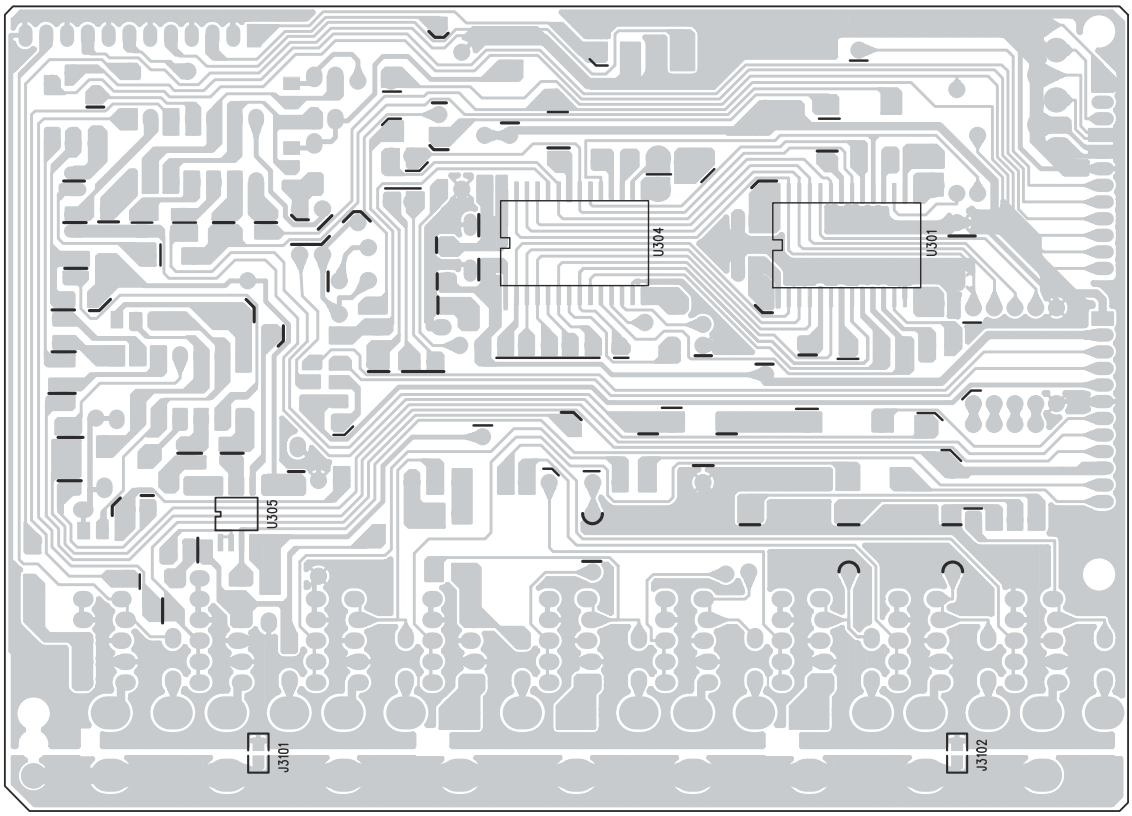
1. Connect 8 ohm loading to all channels.
2. Rotate R881 fully clockwise.
3. Load all channels at full power using 1kHz sine wave.
4. At this time, monitor the THD of the SL,SR,BS output. Clipping should occur before full power achieved.
5. Rotate R834 counter-clockwise slowly until the THD just below 0.1%.
6. Repeat step 2-5 for R834 but monitor FL, FR & Center output.
7. The procedure is finish at this step.
8. Load all channels at full power using 1kHz sine wave with 4 ohm load.
9. The clipping power(at THD 0.1%) should less than 85W.

# PCB LAYOUT

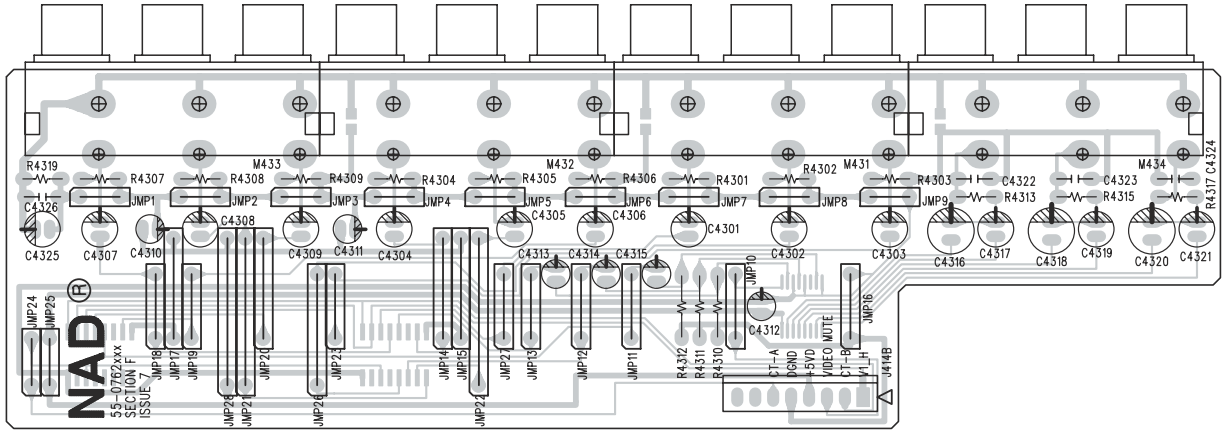
## AUDIO BOARD - COMPONENT SIDE



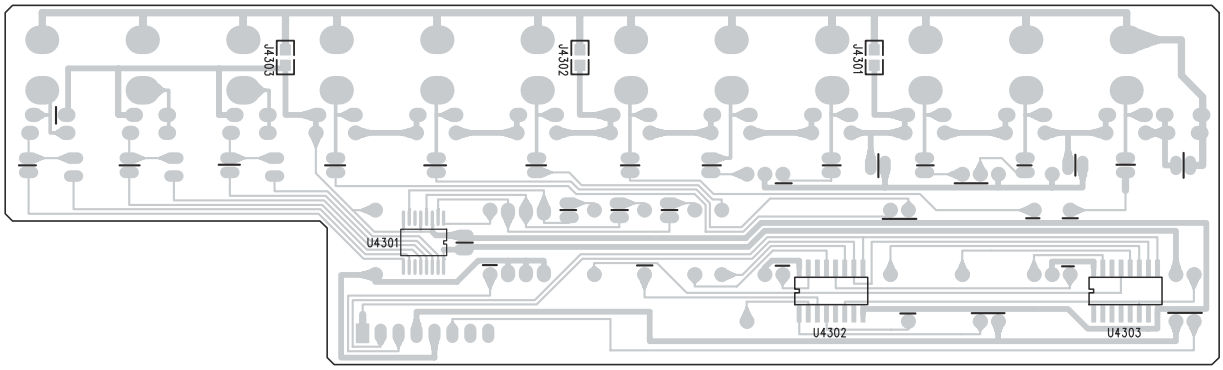

## AUDIO BOARD - COPPER SIDE



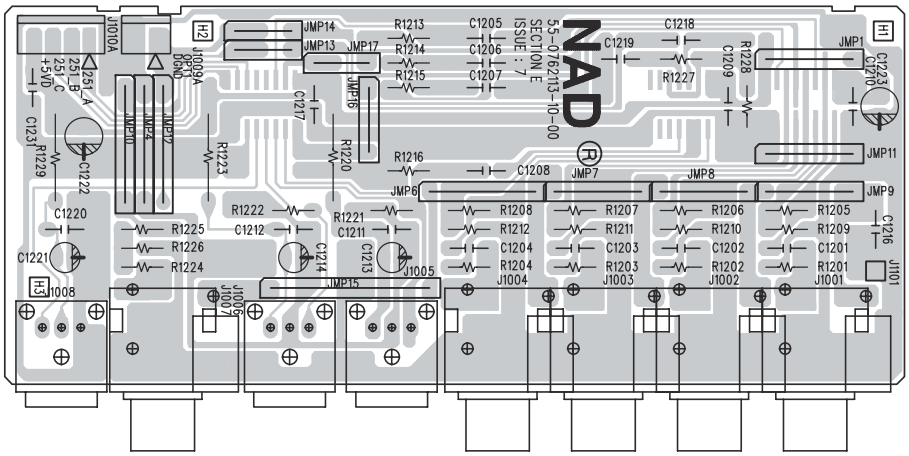
## COMPONENT VIDEO BOARD - COMPONENT SIDE



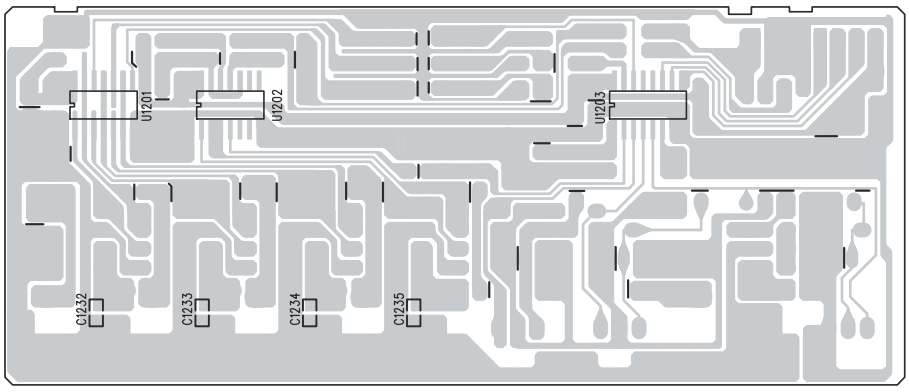

## COMPONENT VIDEO BOARD - COPPER SIDE



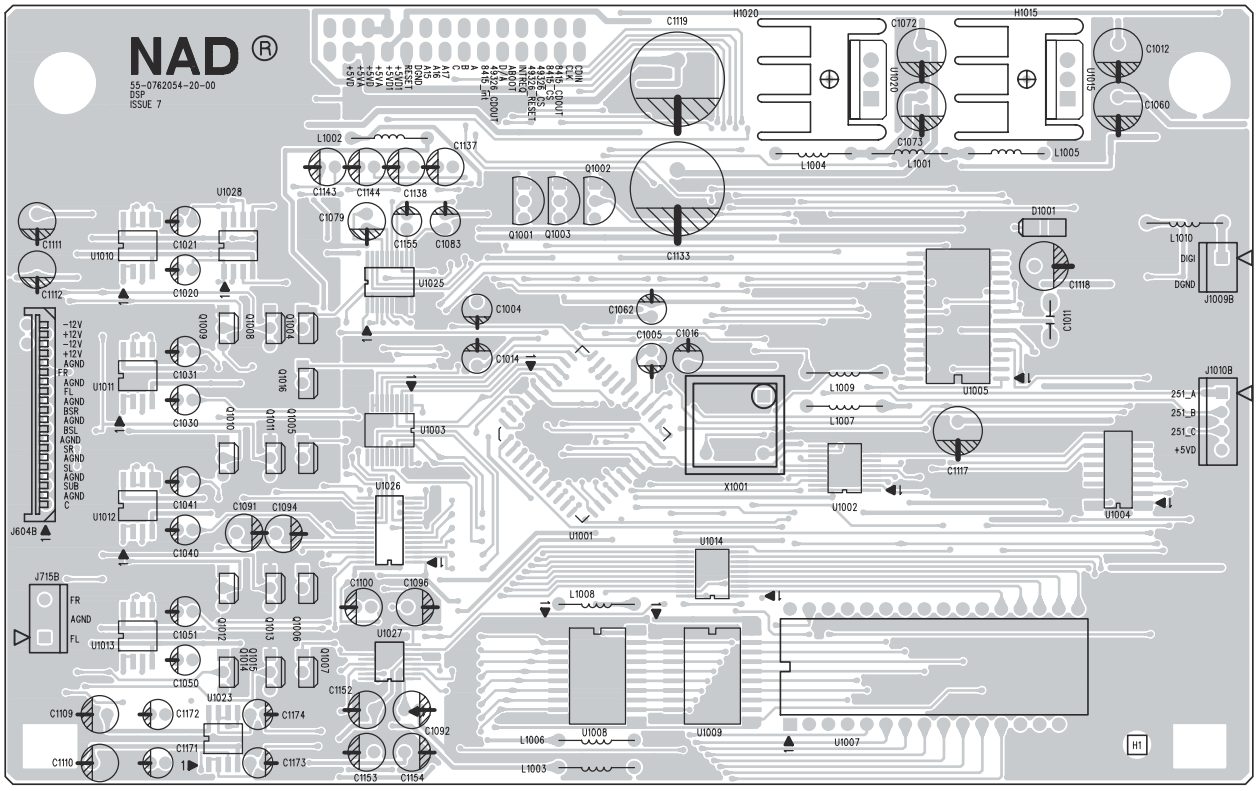
## DIGITAL BOARD - COMPONENT SIDE SIDE



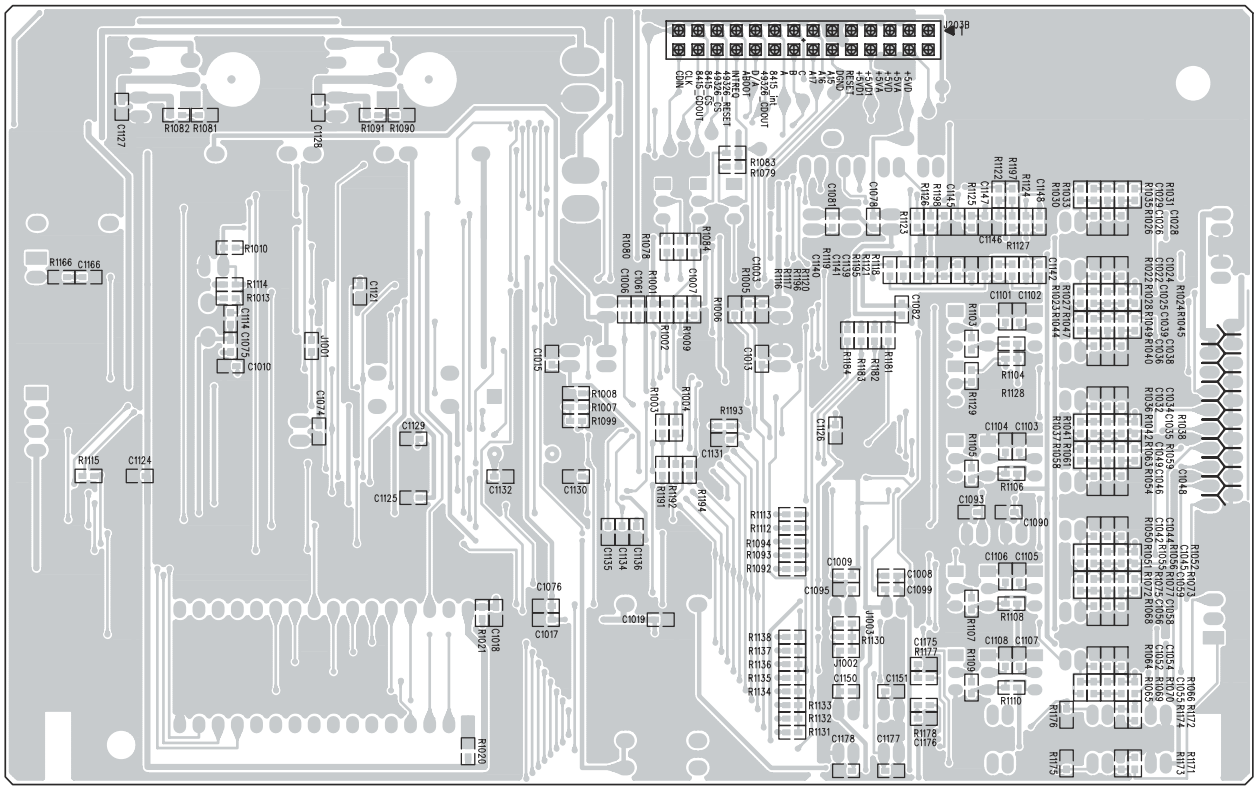

## DIGITAL BOARD - COPPER SIDE



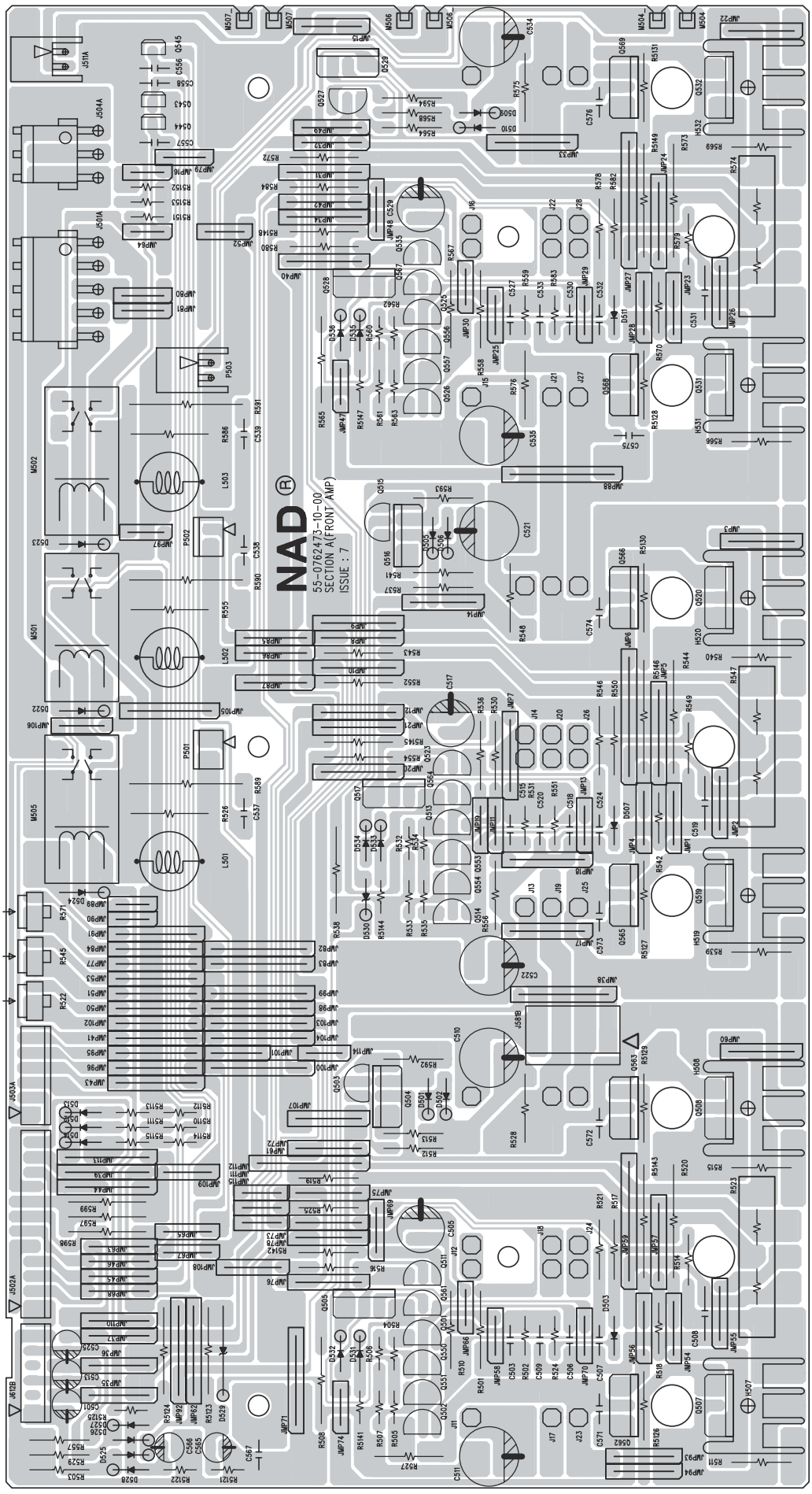
## DSP BOARD - COMPONENT SIDE



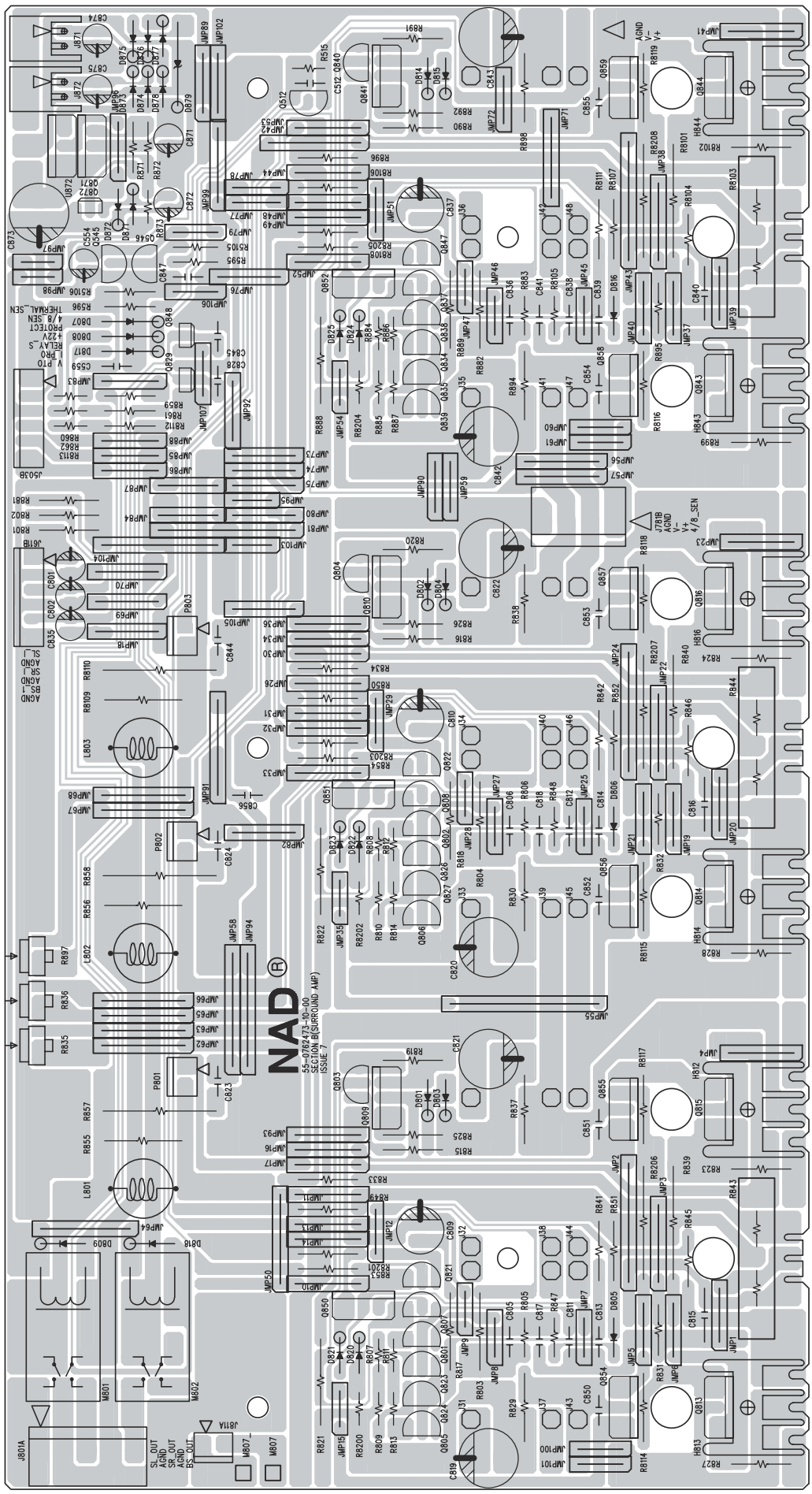

## DSP BOARD - COPPER SIDE



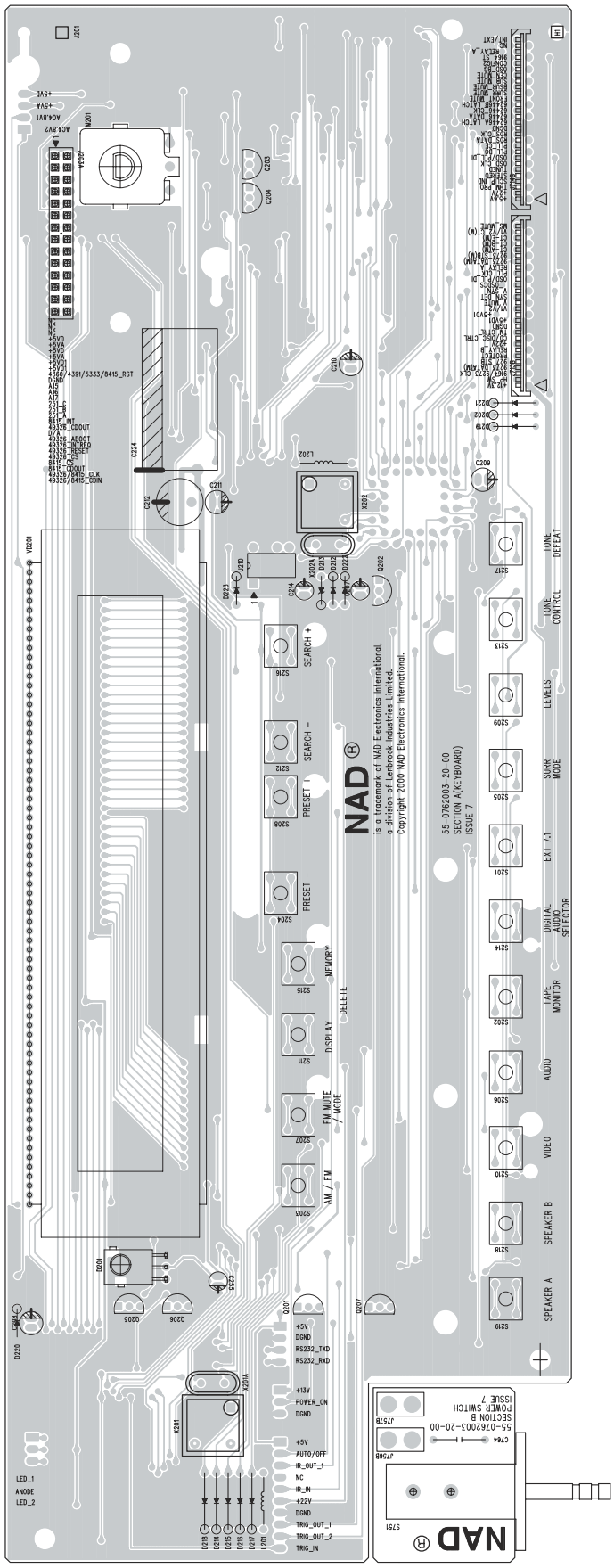
## FRONT/CENTER AMPLIFIER BOARD



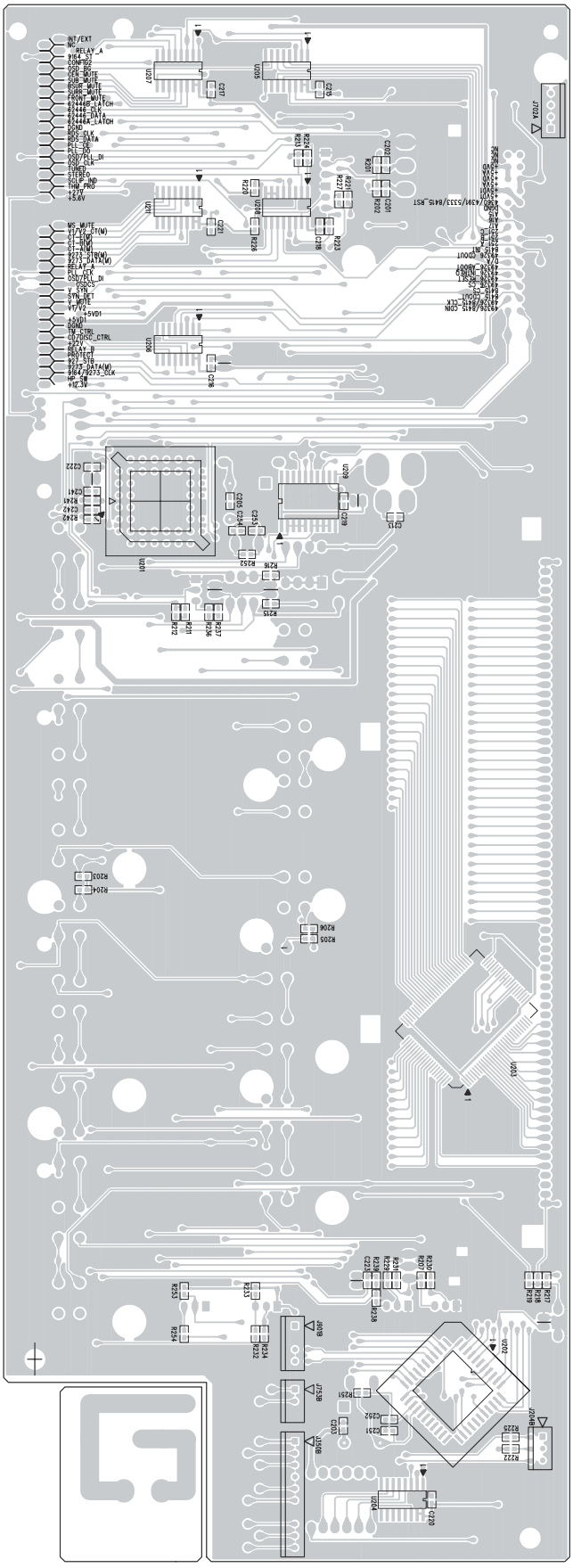
## SURROUND AMPLIFIER BOARD



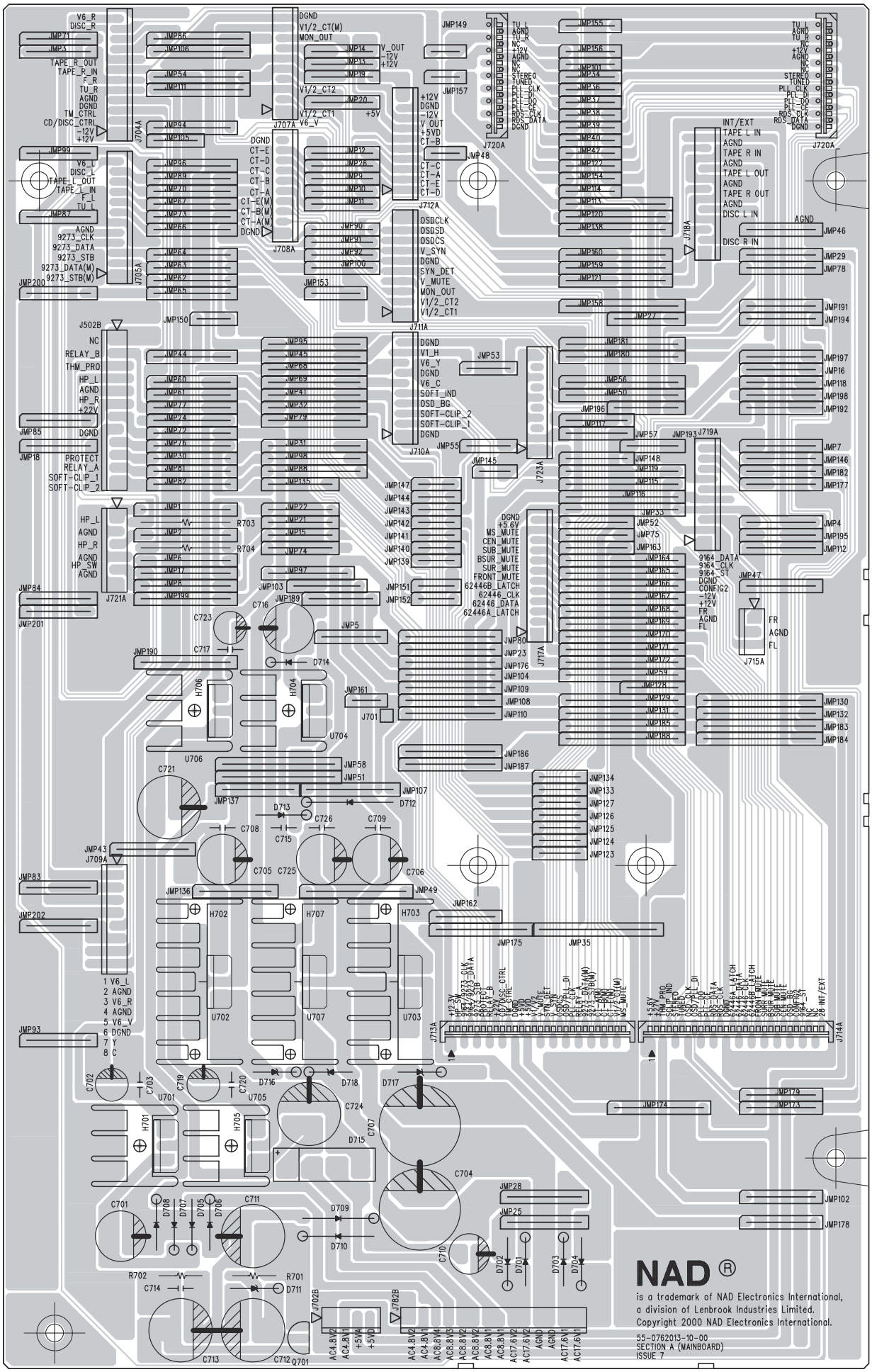
## KEY BOARD/POWER SWITCH - COMPONENT SIDE




## KEY BOARD/POWER SWITCH - COPPER SIDE



## MAIN BOARD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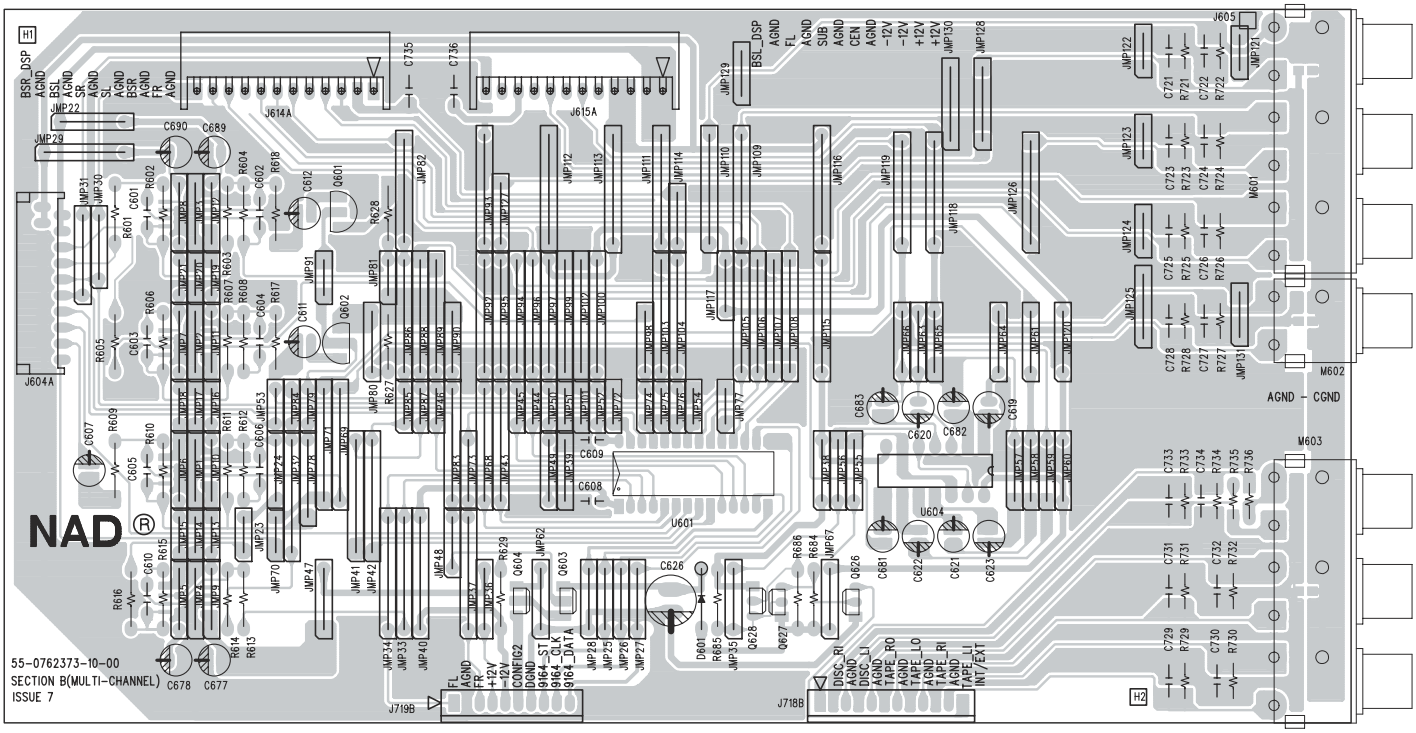
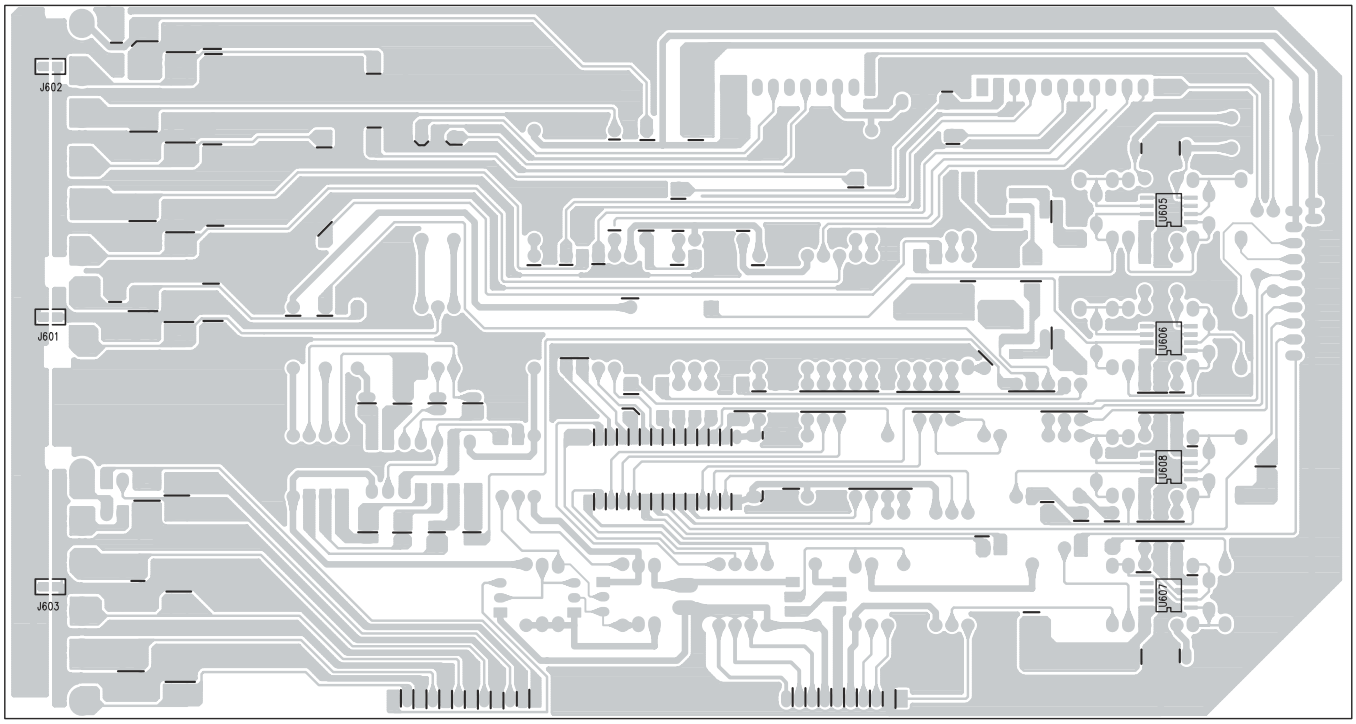
55-0762013-10-00
SECTION A (MAINBOARD)
ISSUE 7

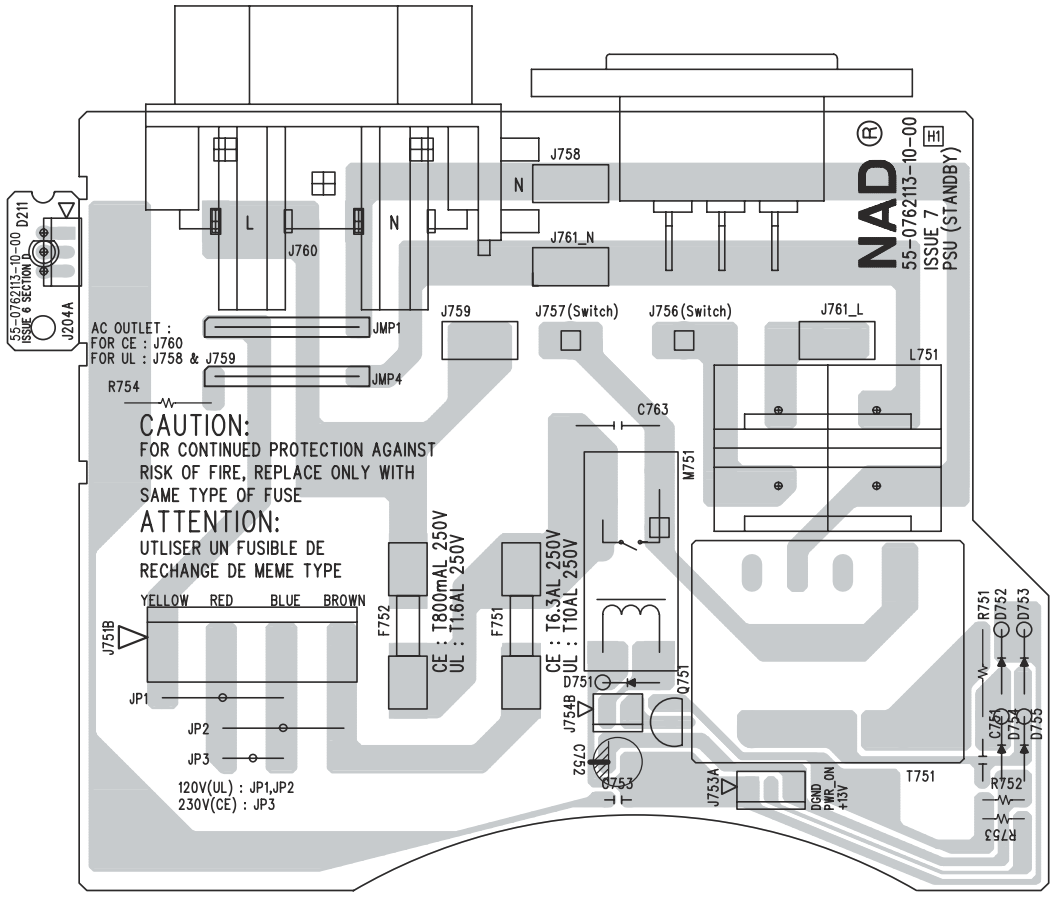
## MULTI-CHANNEL BOARD - COMPONENT SIDE



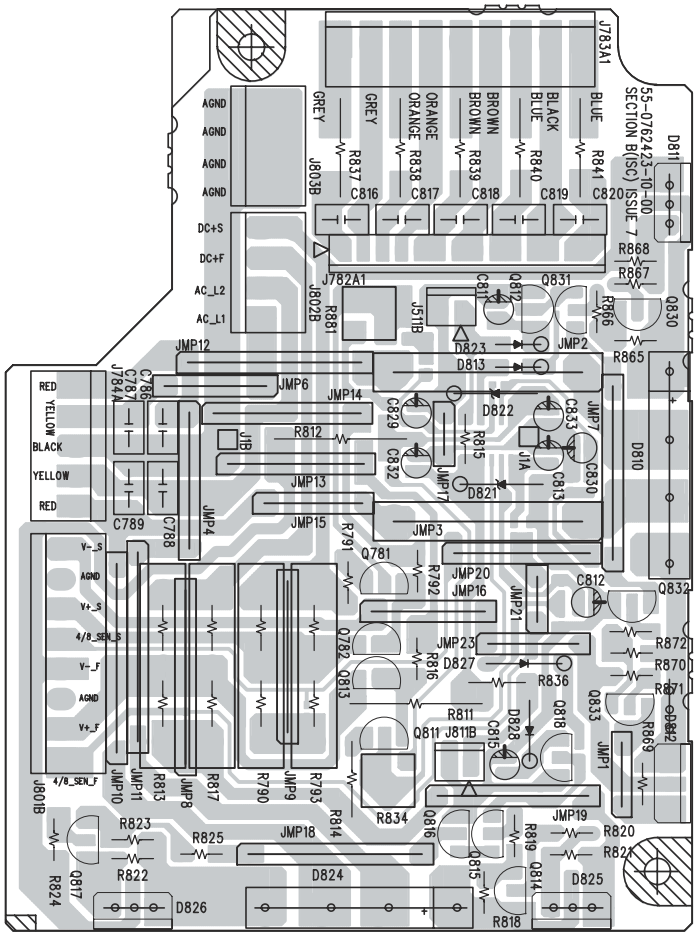

## MULTI-CHANNEL BOARD - COPPER SIDE



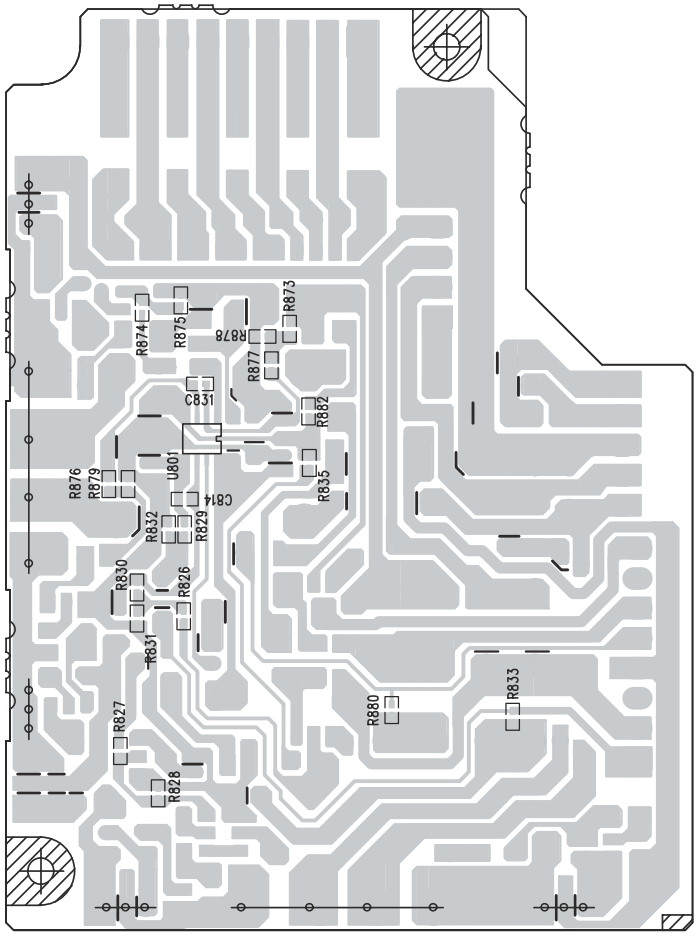
## POWER SUPPLY (STANDBY) / LED BOARD



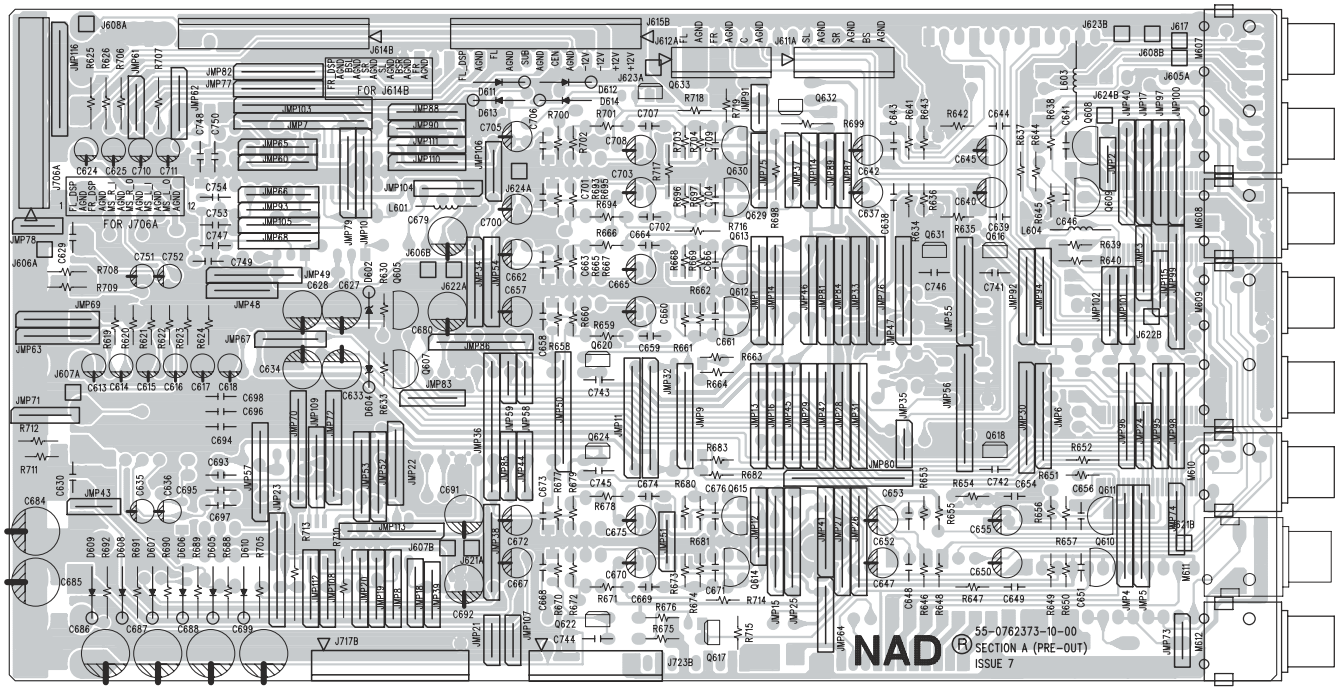

## ISC BOARD
## - COMPONENT SIDE



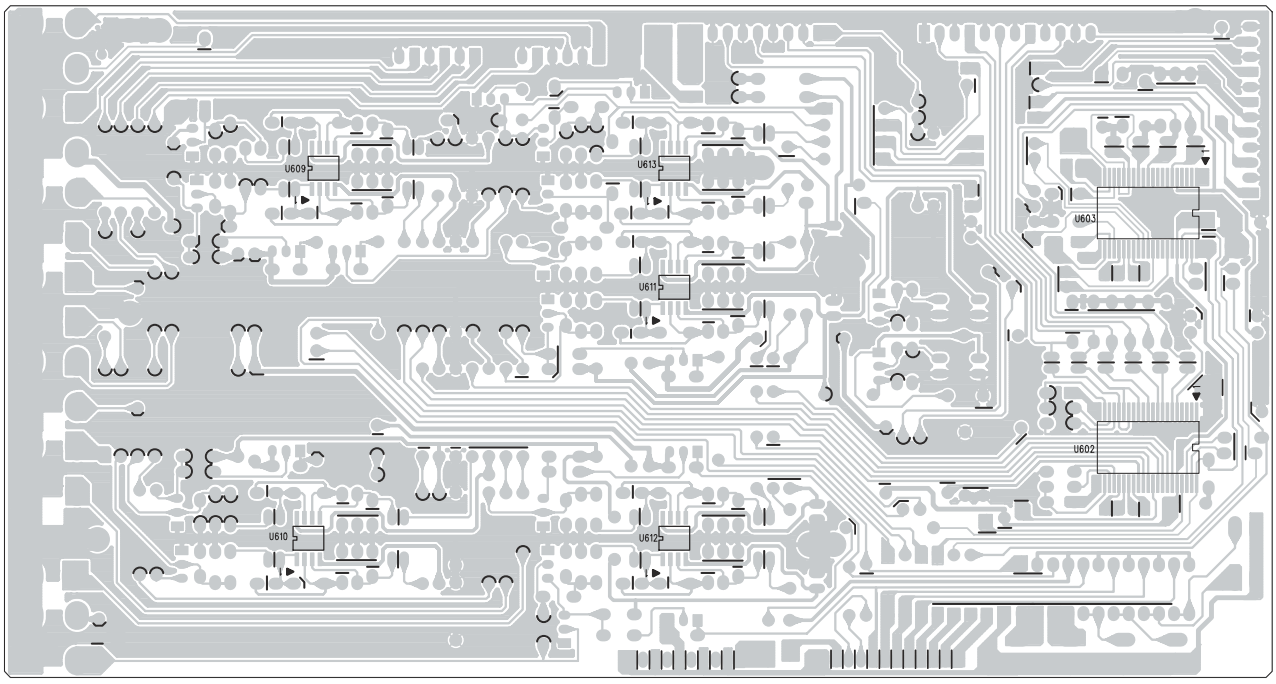

## ISC BOARD
## - COPPER SIDE



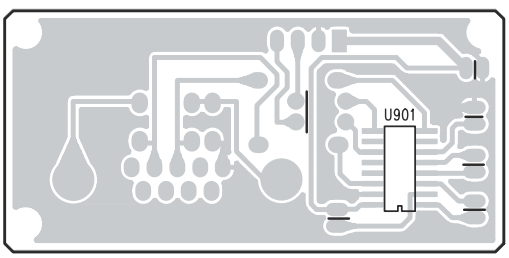
## PRE-OUT BOARD - COMPONENT SIDE



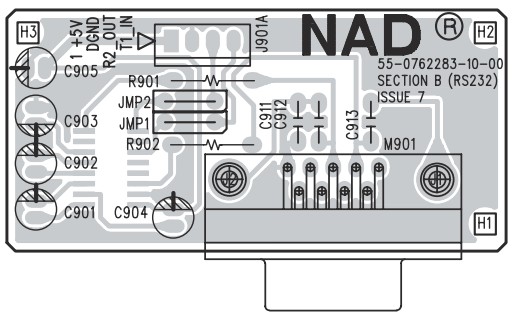

## PRE-OUT BOARD - COPPER SIDE



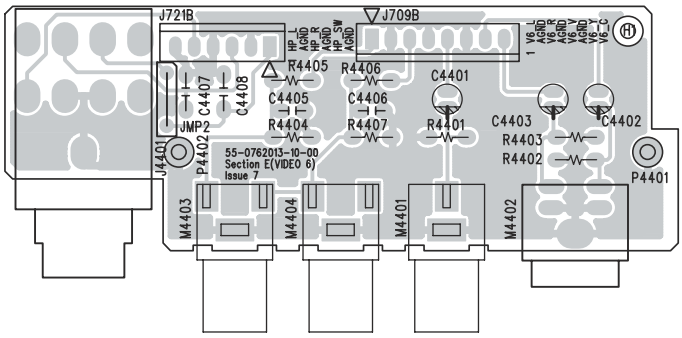
## RS-232 BOARD
## - COPPER SIDE



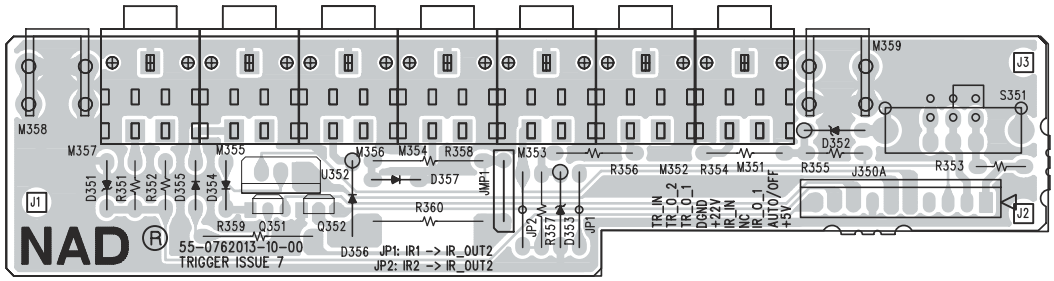

## - COMPONENT SIDE



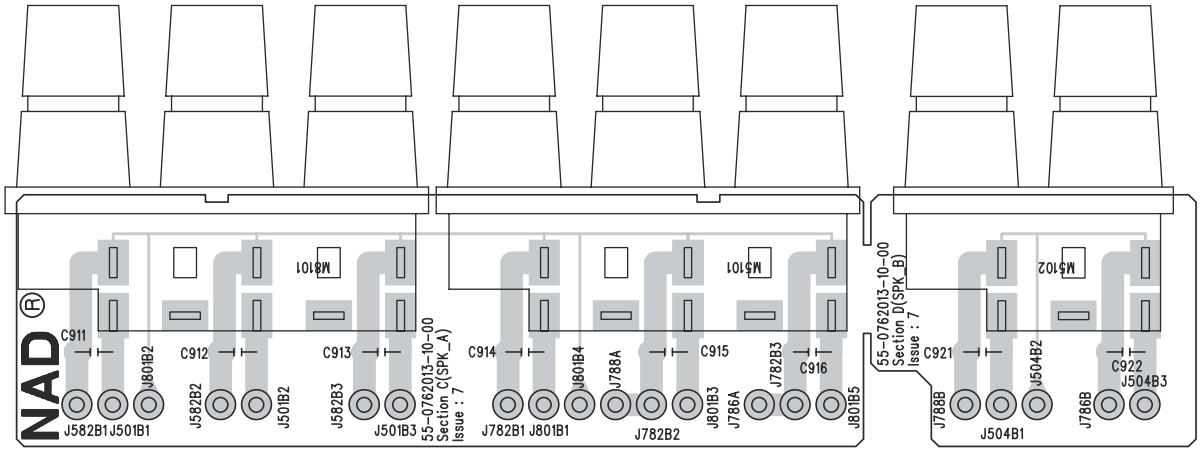
## VIDEO 6 BOARD



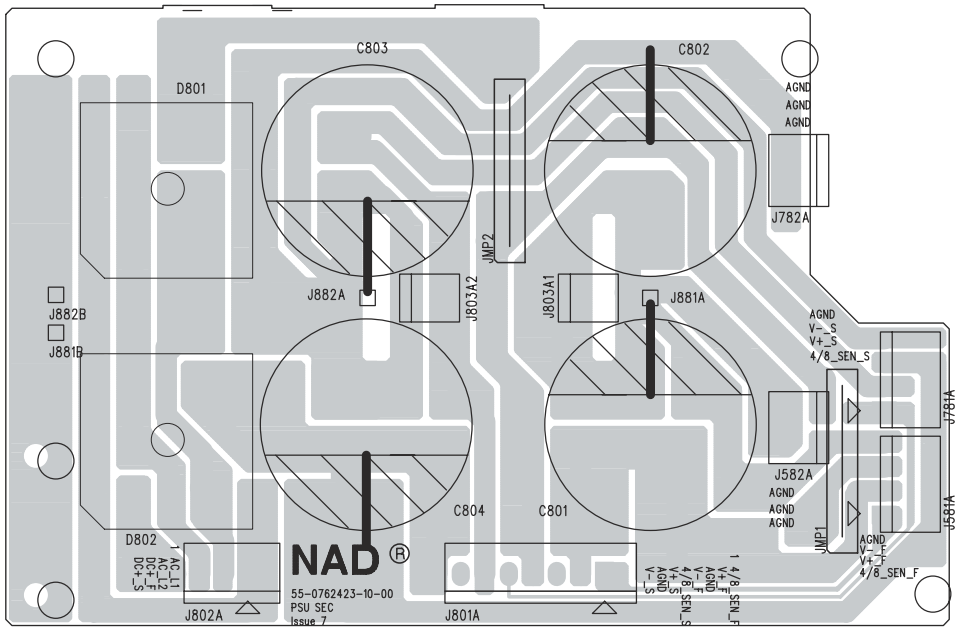

## TRIGGER BOARD



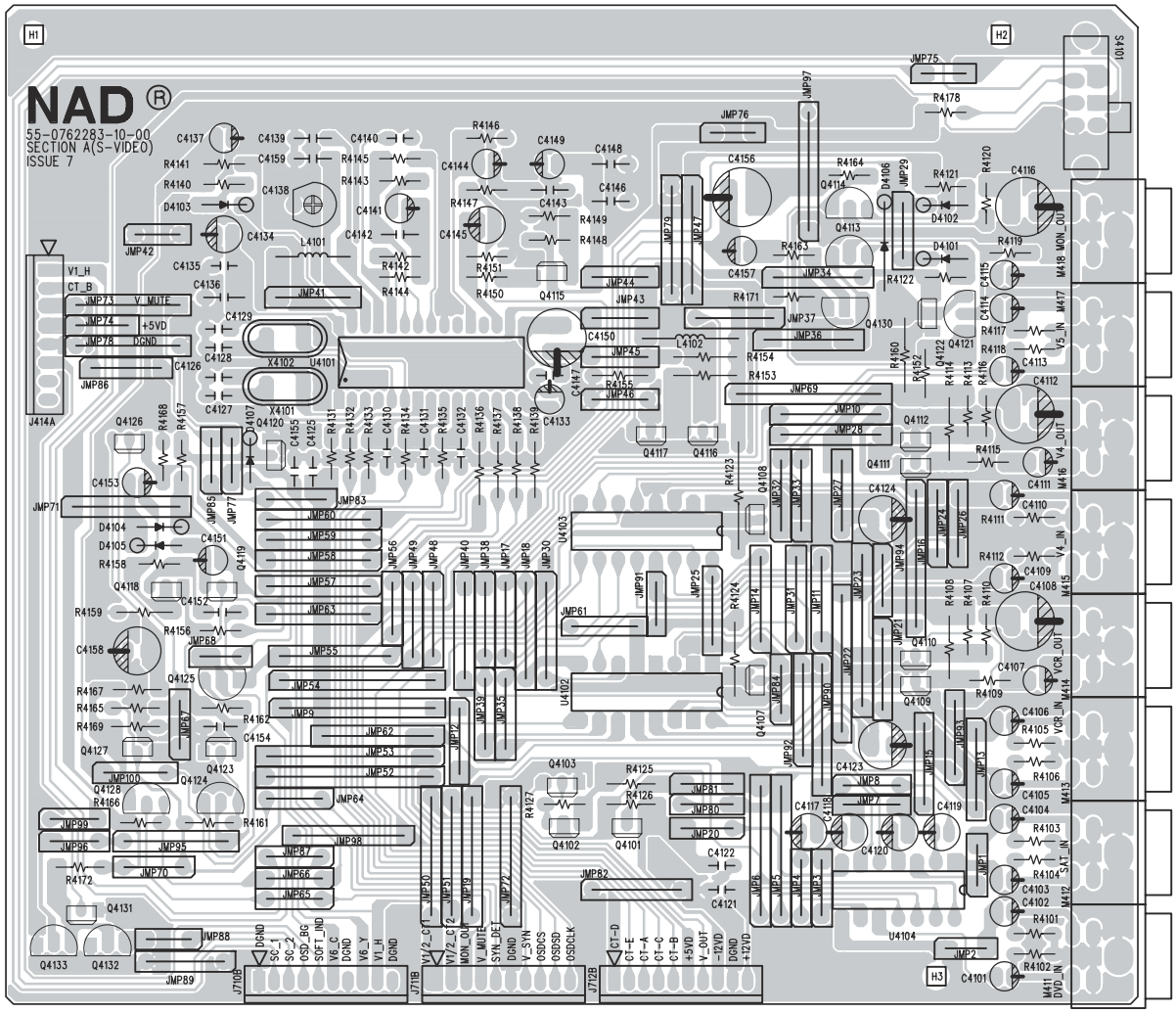

## SPEAKER TERMINAL BOARD



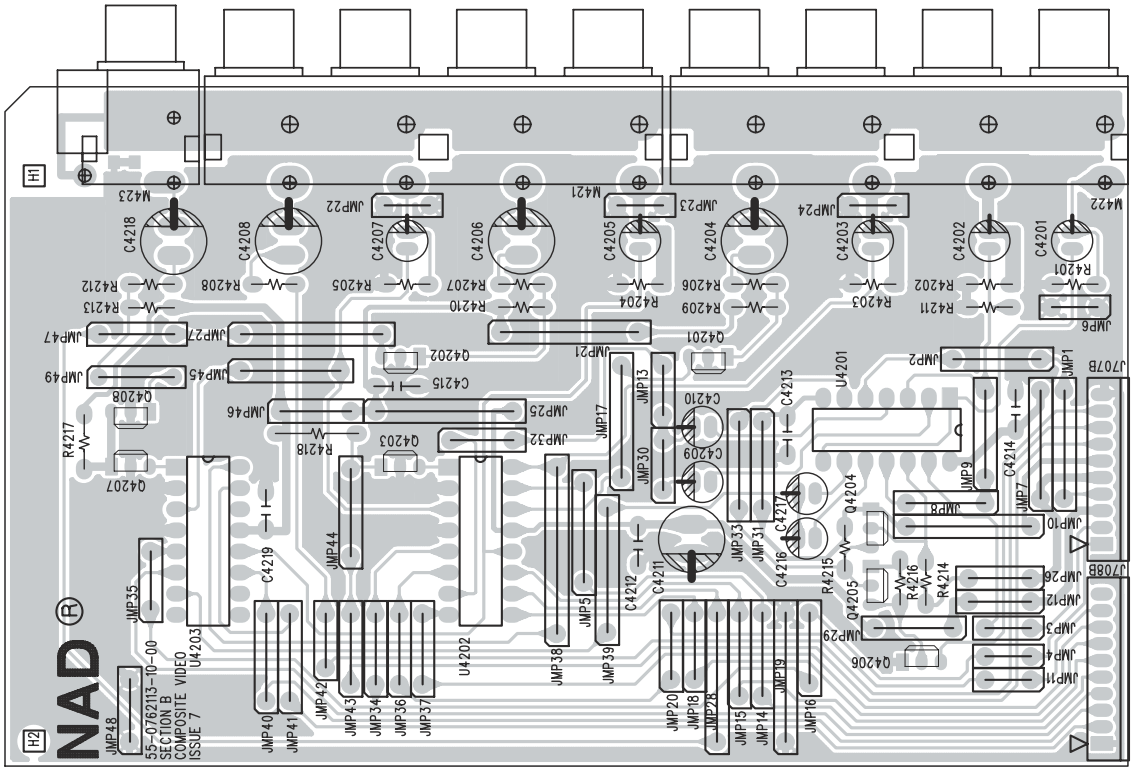

## SECONDARY BOARD



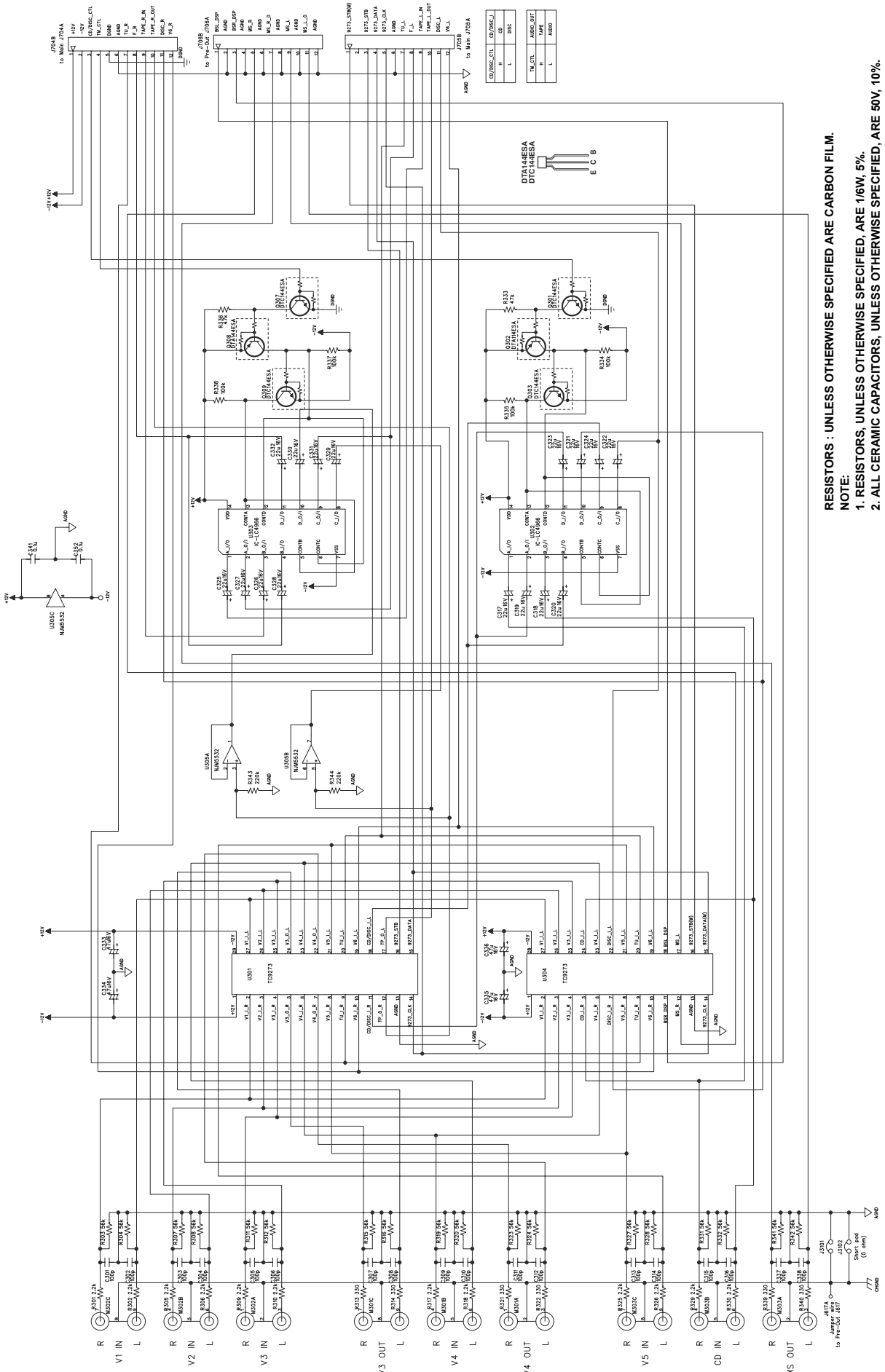
## S-VIDEO BOARD



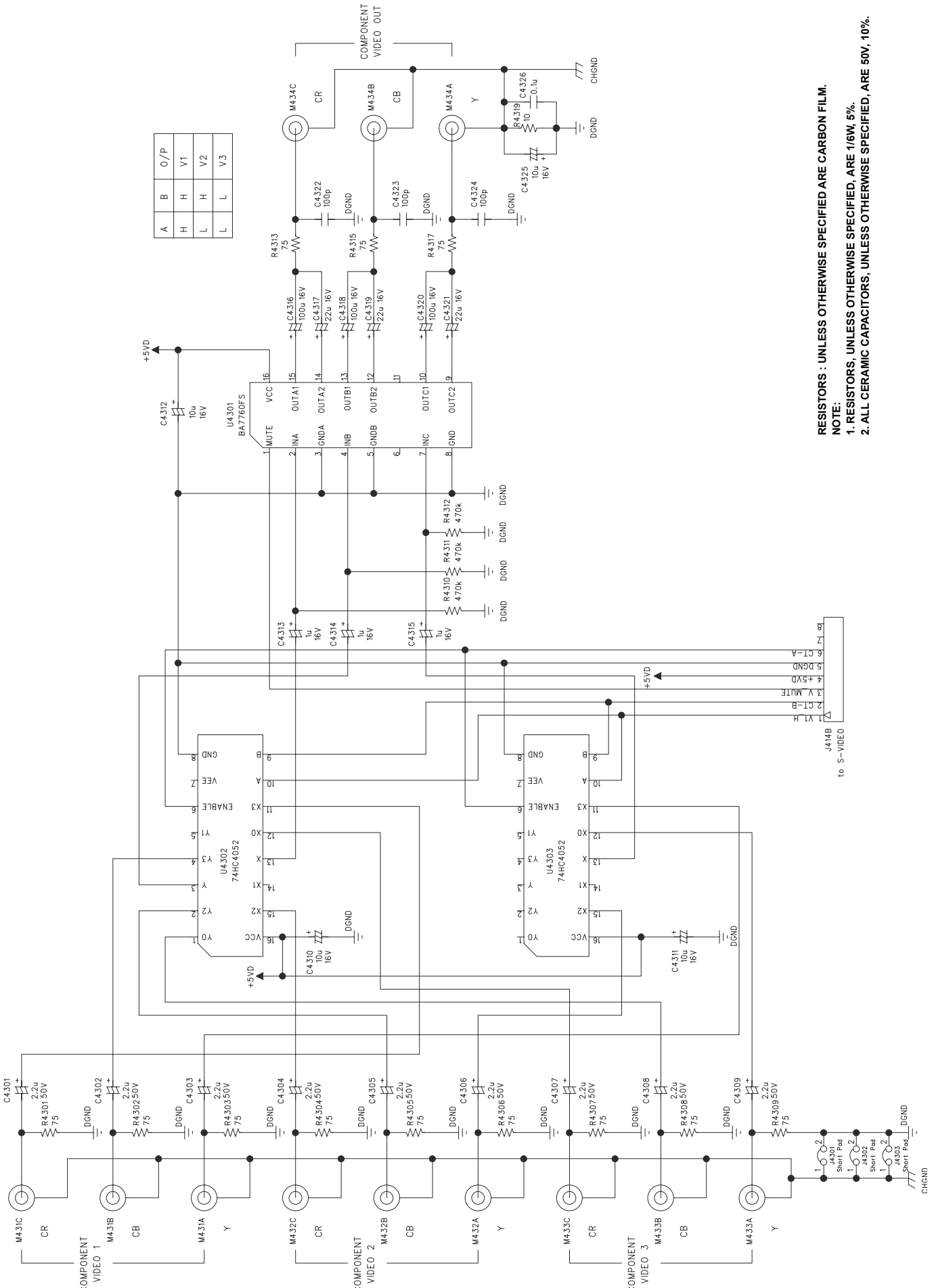

## COMPOSITE VIDEO BOARD



# SCHEMATIC DIAGRAM
## AUDIO SWITCH

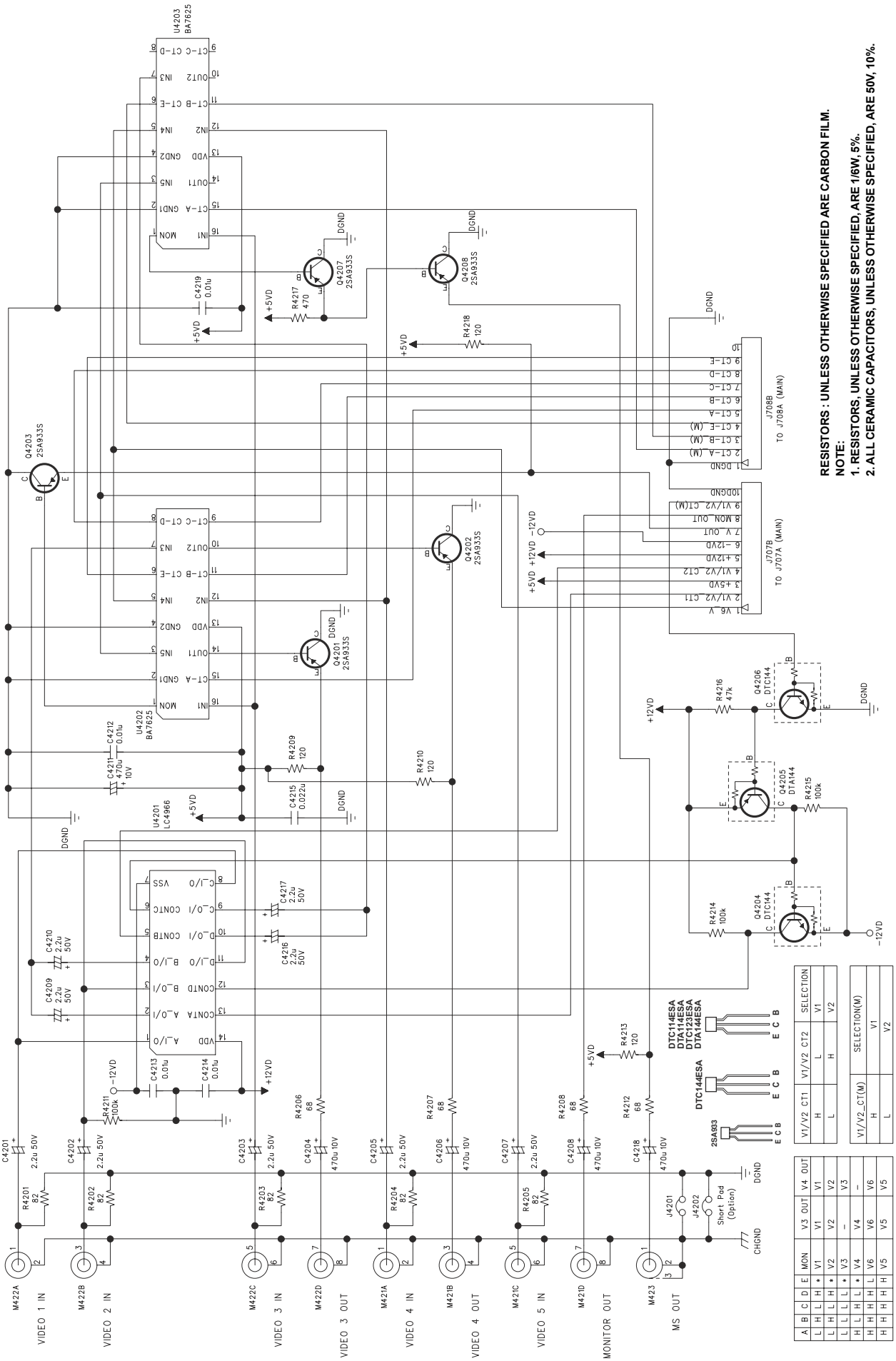


# COMPONENT VIDEO

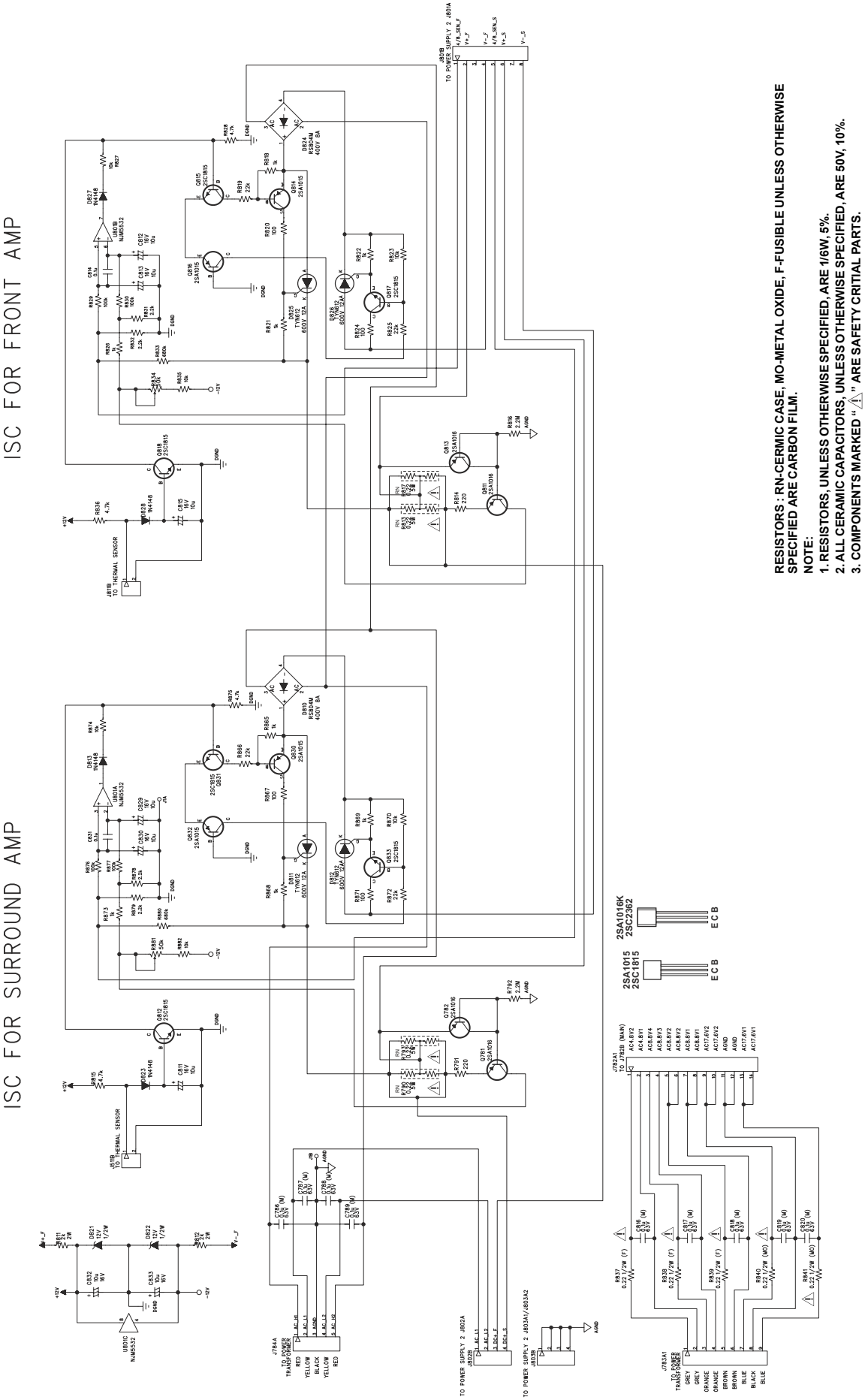



**RESISTORS : UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.**
**NOTE:**
**1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
**2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.**

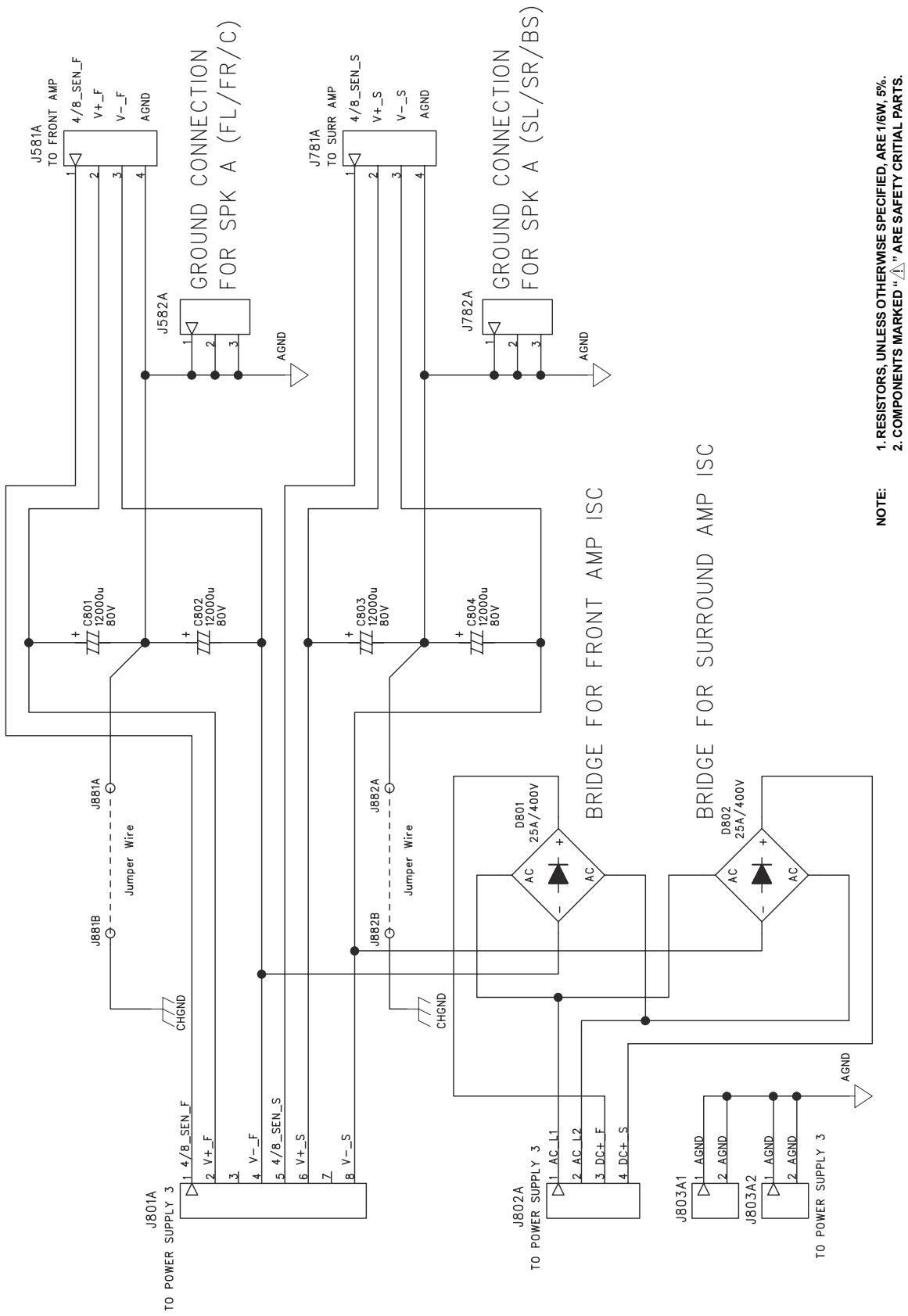
# COMPOSITE VIDEO



# ISC

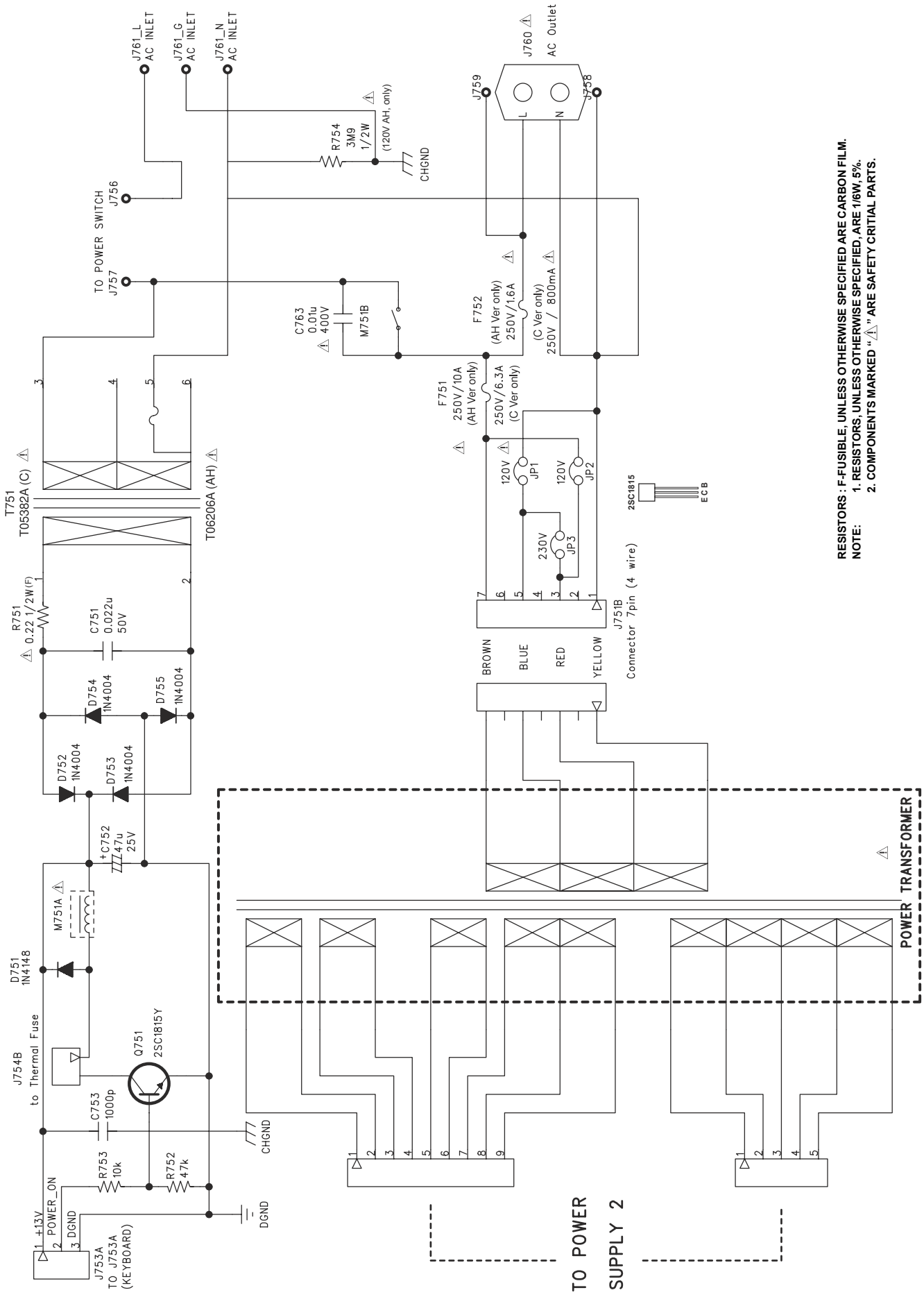

ISC FOR FRONT AMP
ISC FOR SURROUND AMP
RESISTORS : RN-CERMIC CASE, MO-METAL OXIDE, F-FUSIBLE UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.
NOTE:
1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.
2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.
3. COMPONENTS MARKED " ⚠ " ARE SAFETY CRITIAL PARTS.
2SA1016K
2SC2362
2SA1015
2SC1815
TO POWER SUPPLY 2 J803A
TO POWER SUPPLY 2 J803A1/J803A2
TO THERMAL SENSOR
TO POWER TRANSFORMER

## POWER SUPPLY (SECONDARY)



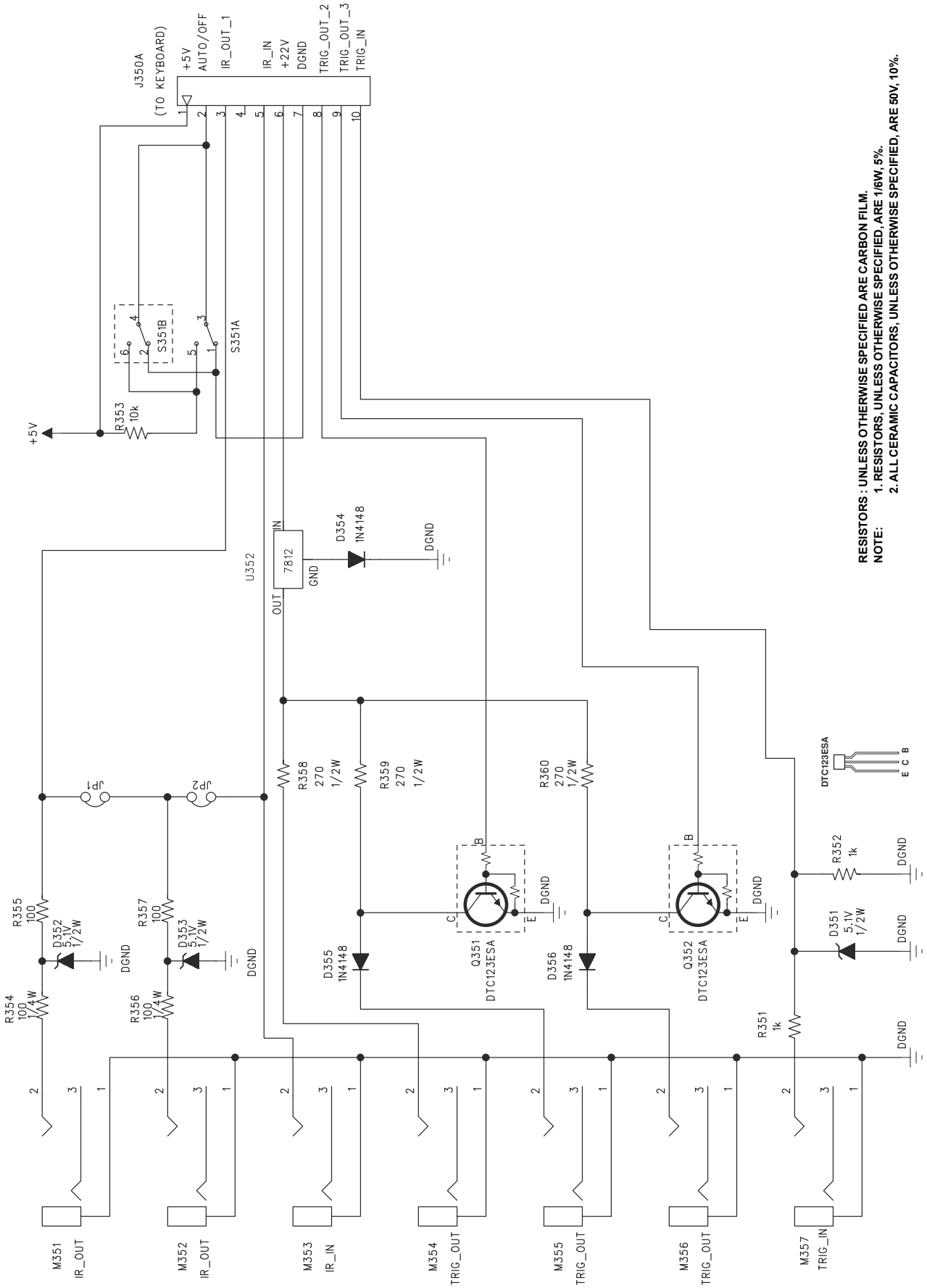

**NOTE:** **1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
**2. COMPONENTS MARKED "⚠" ARE SAFETY CRITIAL PARTS.**

## POWER SUPPLY (STAND BY)



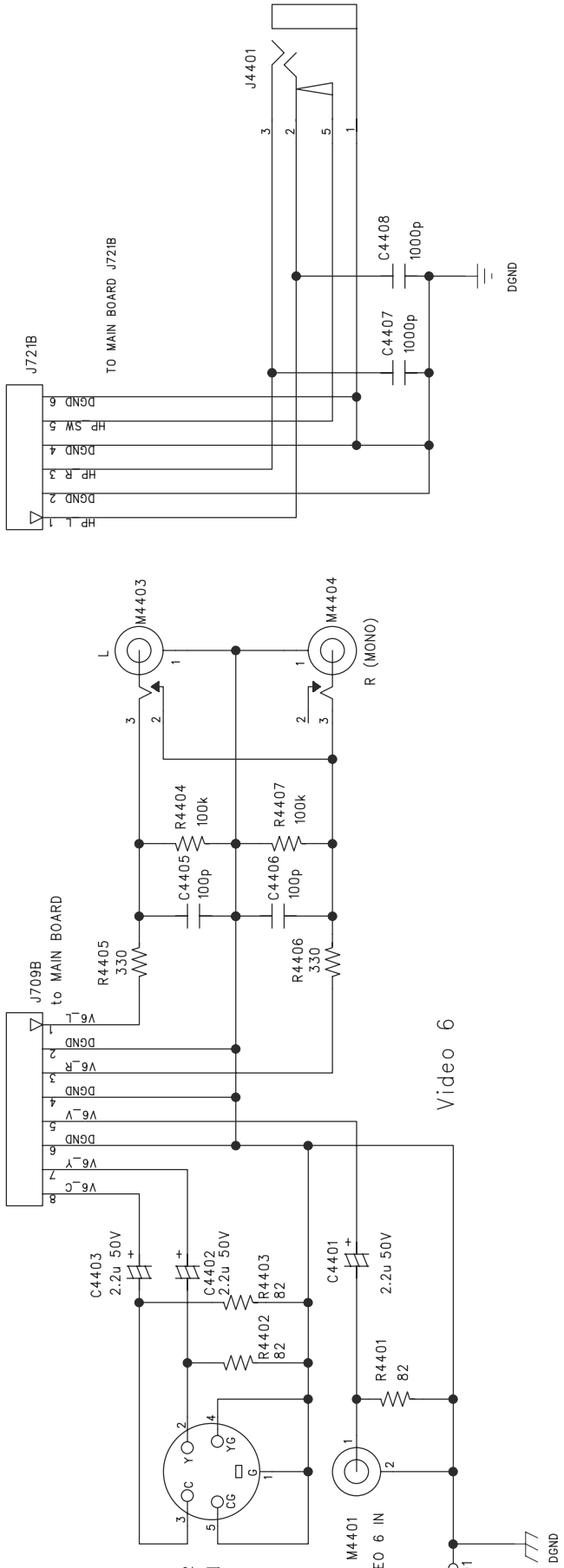

RESISTORS : F-FUSIBLE, UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.
NOTE: 1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.
2. COMPONENTS MARKED "⚠" ARE SAFETY CRITIAL PARTS.

# TRIGGER



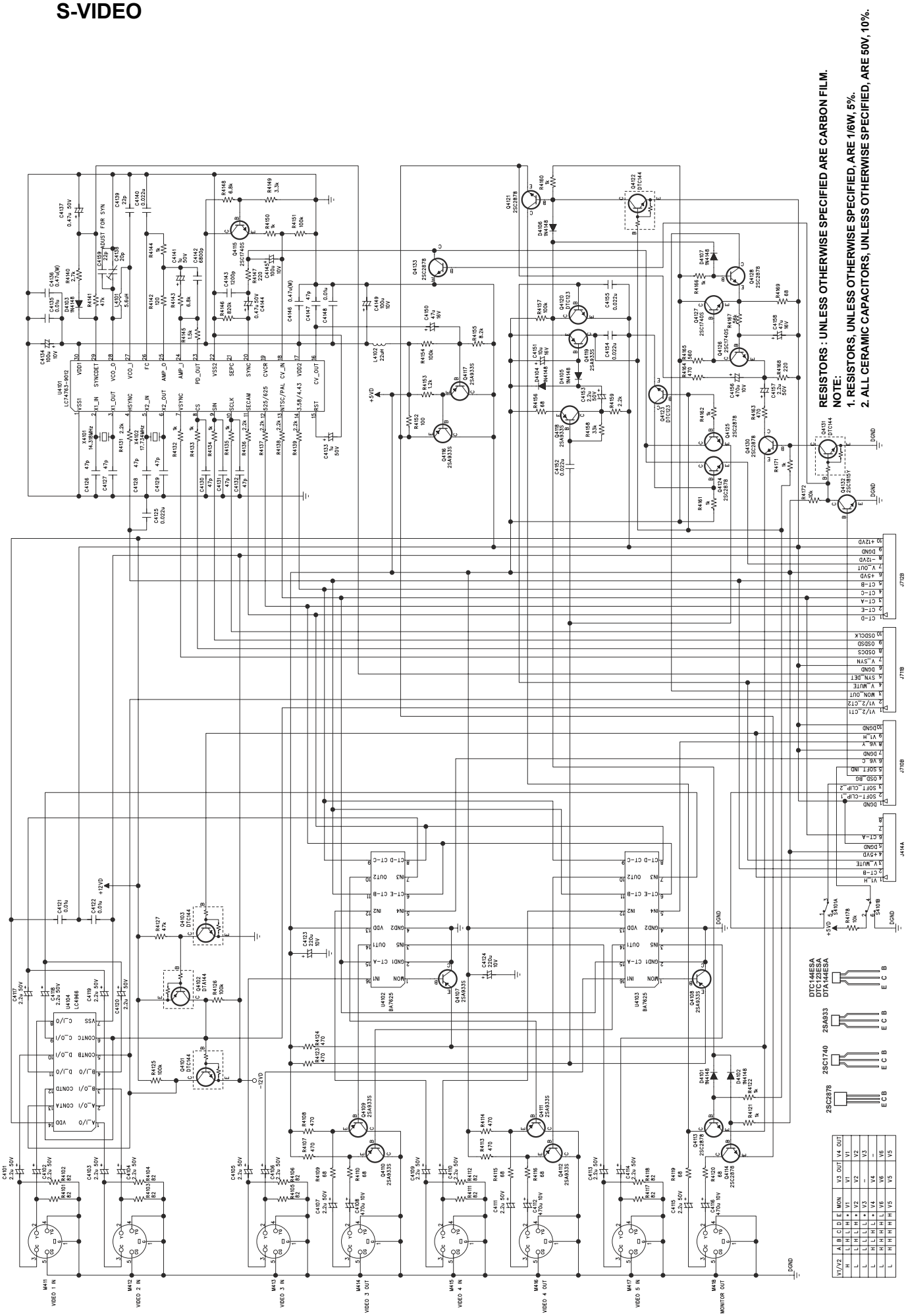

**RESISTORS : UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.**
**NOTE: 1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
**2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.**

# VIDEO 6

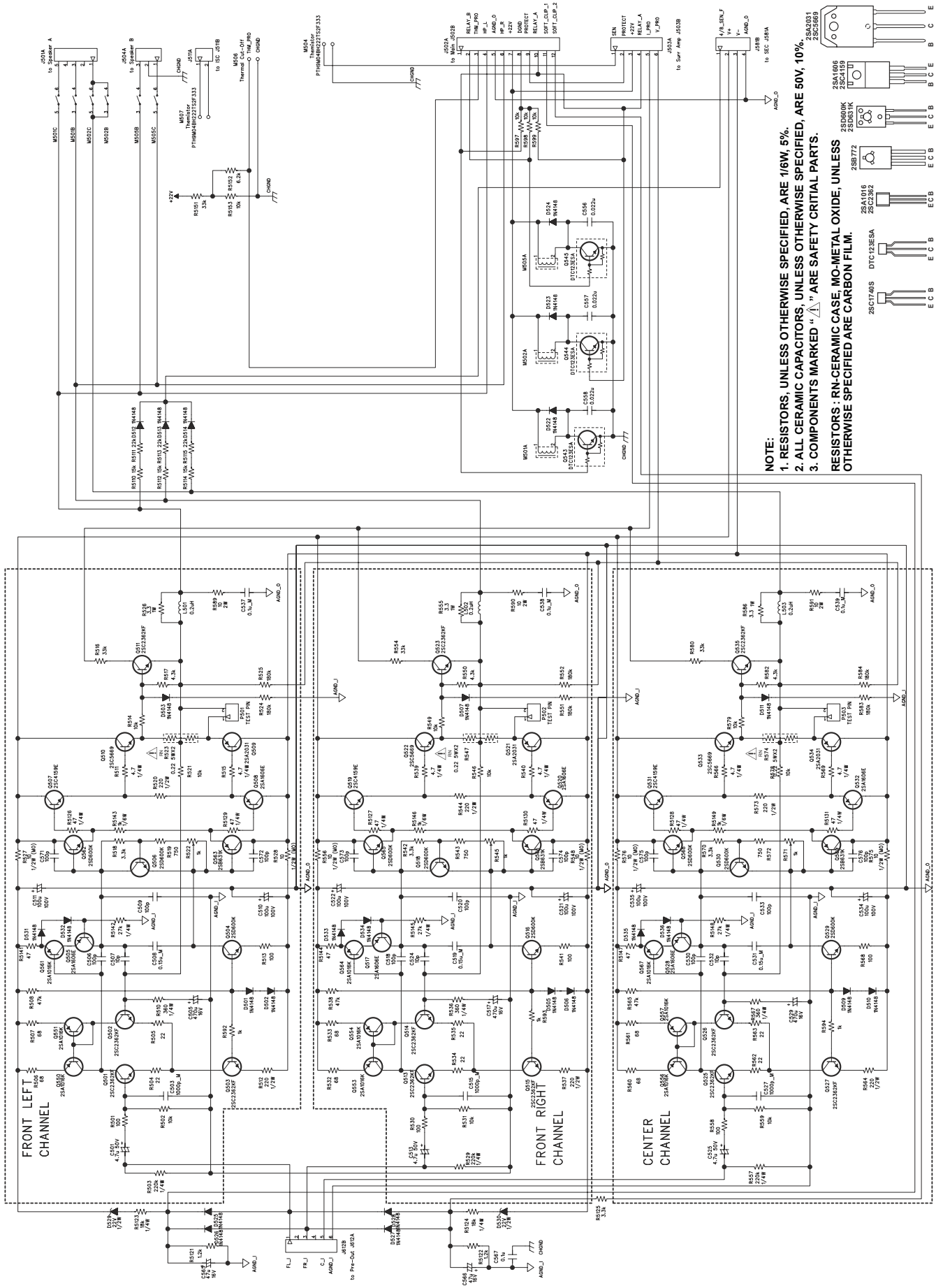



**RESISTORS : UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.**
**NOTE:**
**1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
**2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.**

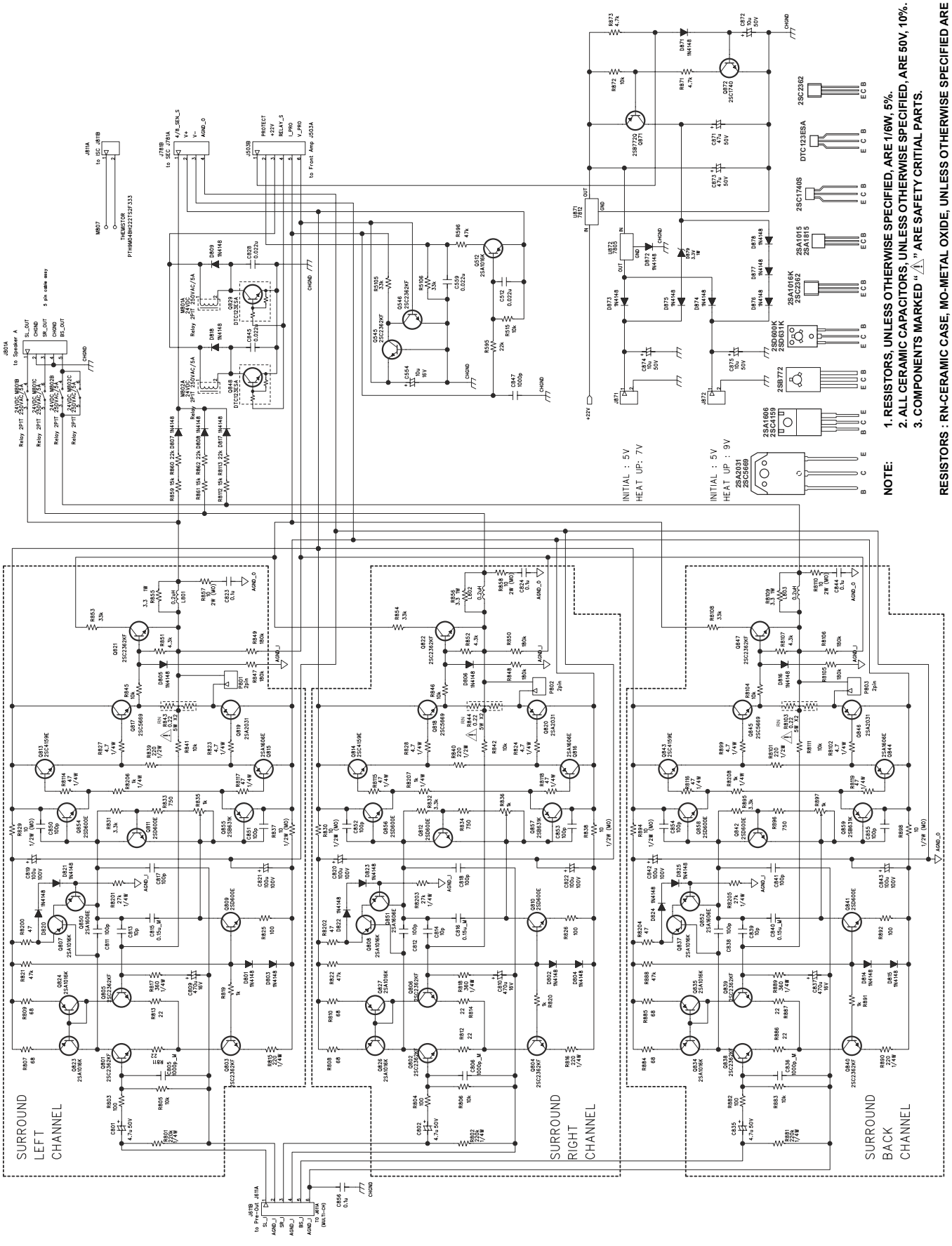
# S-VIDEO


RESISTORS : UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.
NOTE:
1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.
2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.
VIDEO 1 IN
VIDEO 2 IN
VIDEO 3 IN
VIDEO 3 OUT
VIDEO 4 IN
VIDEO 4 OUT
VIDEO 5 IN
MONITOR OUT
TO J712A (MAIN)
TO J711A (MAIN)
TO J709A (MAIN)
TO J444 (COMPONENT VIDEO)
DTC144ESA
DTC123ESA
DTA144ESA
2SA933
2SC1740
2SC2878

# FRONT / CENTER AMPLIFIER


NOTE:
1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.
2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.
3. COMPONENTS MARKED " ⚠ " ARE SAFETY CRITIAL PARTS.
RESISTORS : RN-CERAMIC CASE, MO-METAL OXIDE, UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.
FRONT LEFT CHANNEL
FRONT RIGHT CHANNEL
CENTER CHANNEL
2SA2031 2SC5669
2SA1606 2SC4159
2SD600K 2SB563K
2SB772
2SA1016 2SC2982
DTC123ESA
2SC1740S

# SURROUND / BACK SURROUND AMPLIFIER

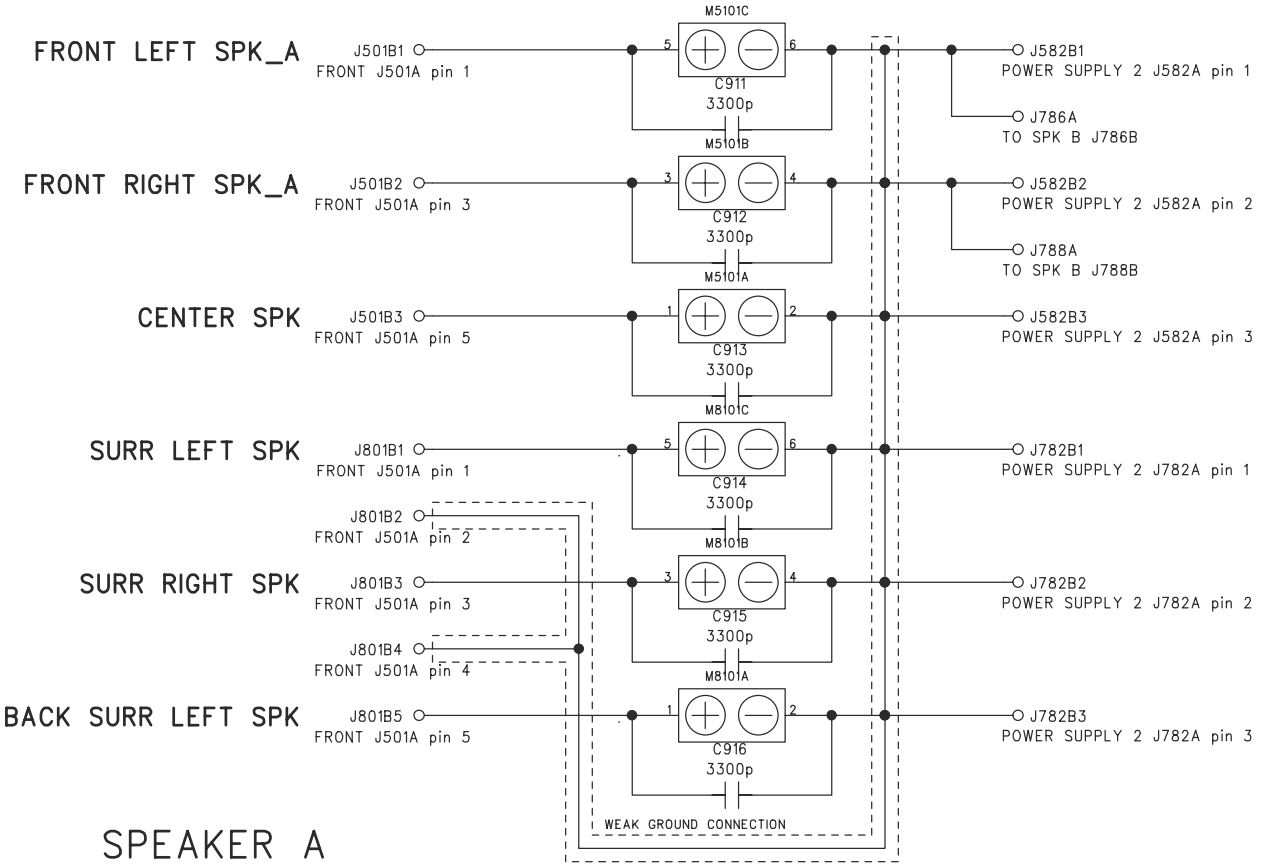



**NOTE:**

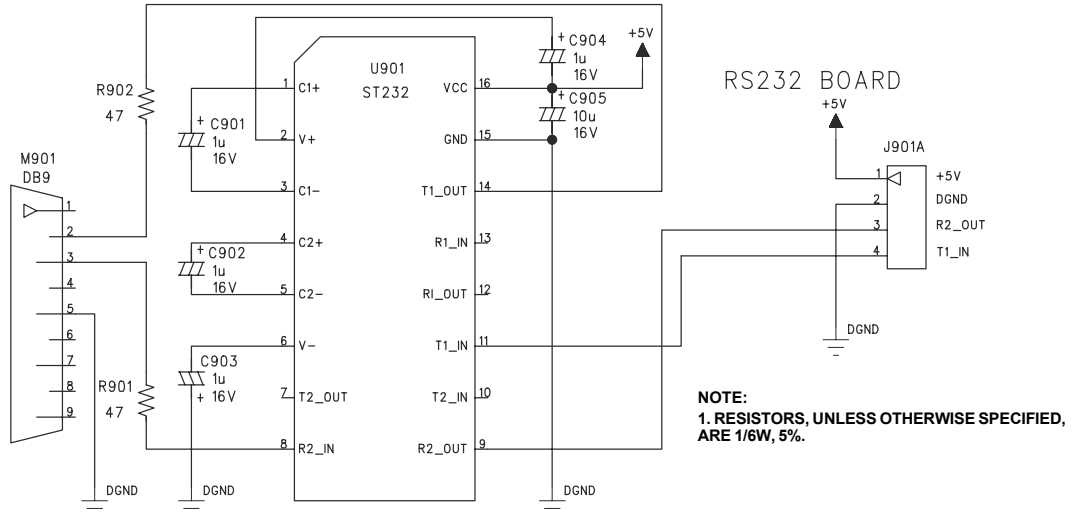
1. **RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
2. **ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.**
3. **COMPONENTS MARKED "⚠" ARE SAFETY CRITIAL PARTS.**

**RESISTORS : RN-CERAMIC CASE, MO-METAL OXIDE, UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.**

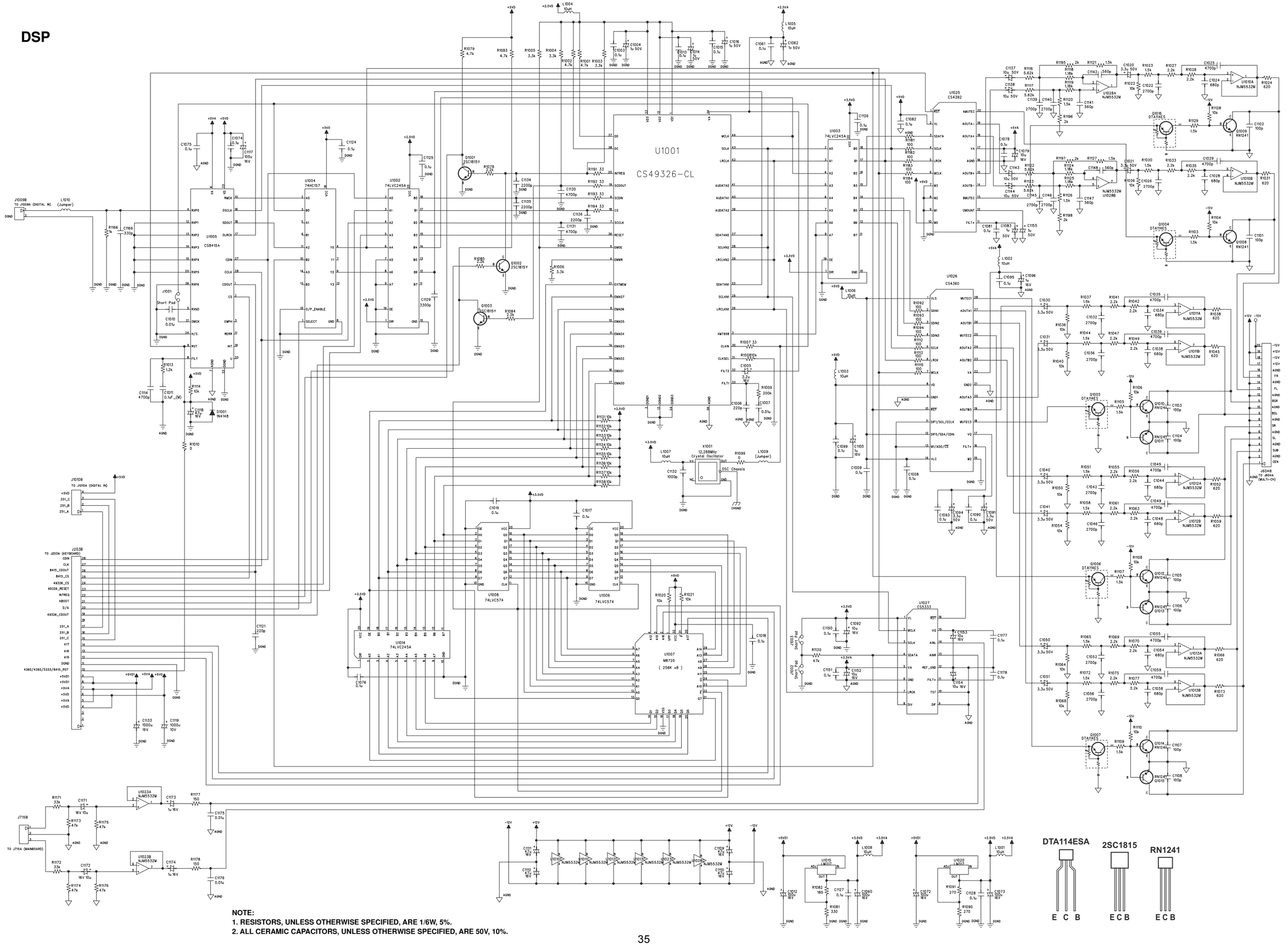
## SPEAKER A & B




## RS-232



# DSP




**NOTE:**
1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.
2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.

DTA114ESA — E C B

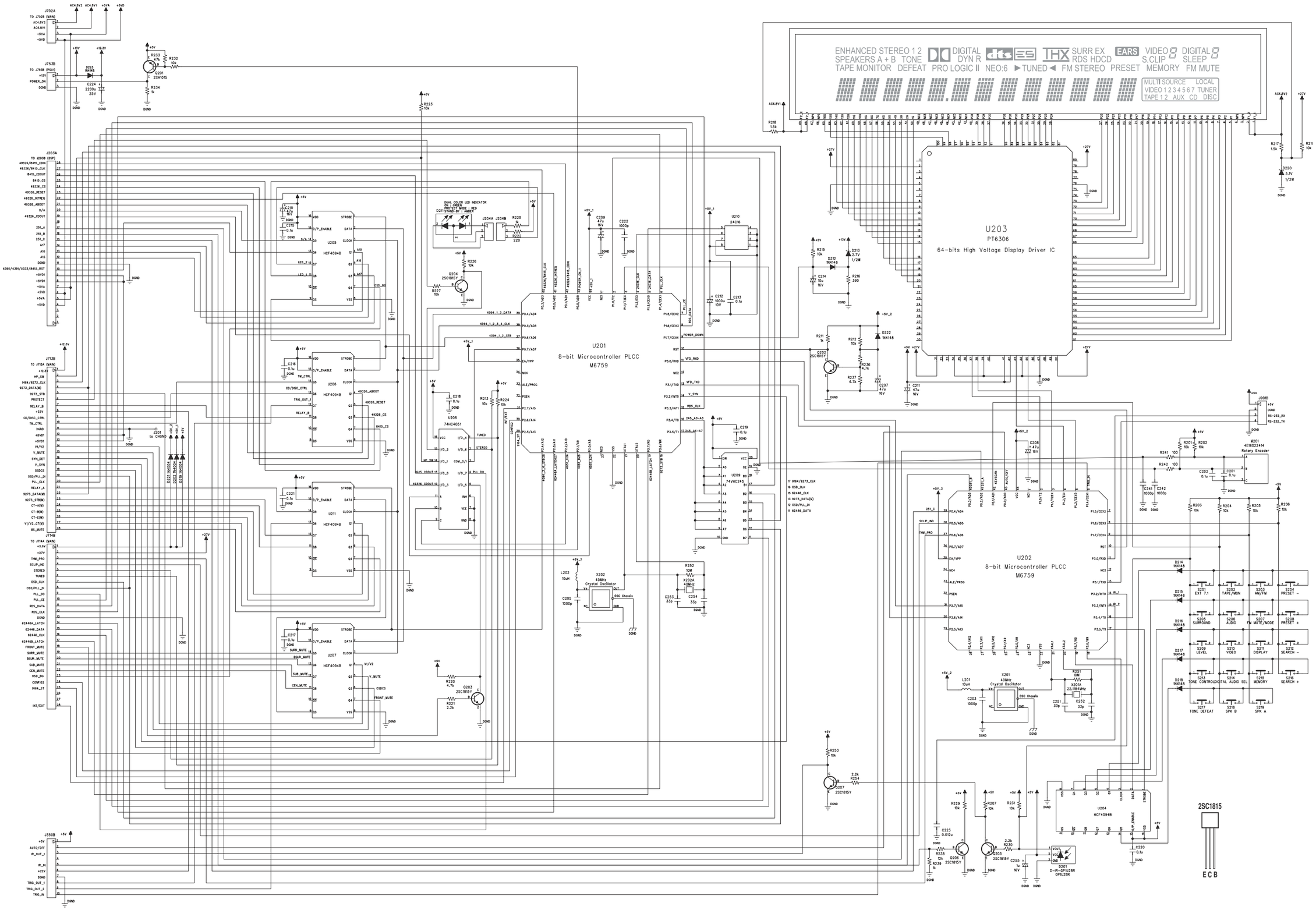
2SC1815 — E C B

RN1241 — E C B



Cutting line for folded page!

# KEYBOARD




**NOTE:**
**1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
**2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 5%.**



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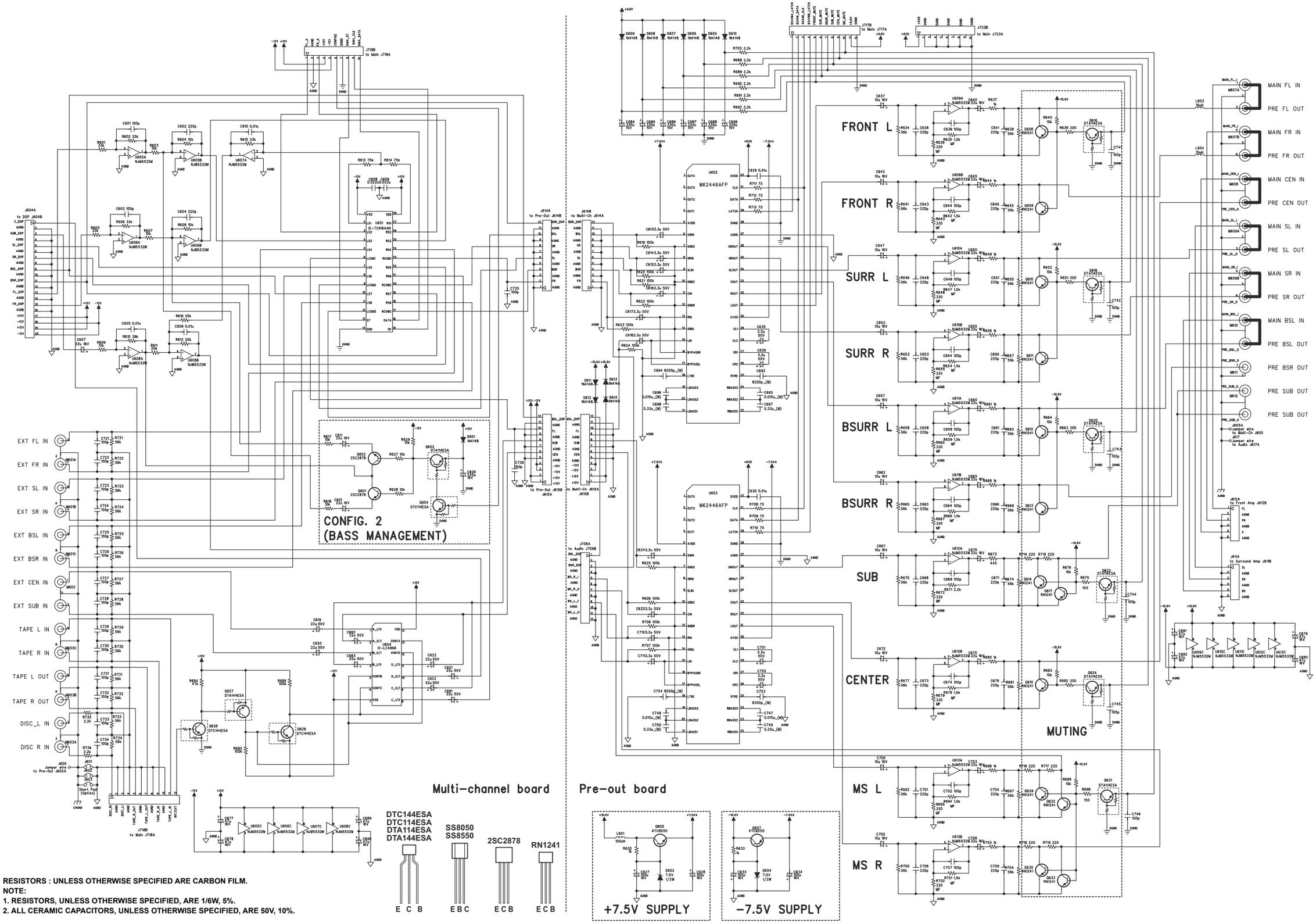
# MULTI-CH / PRE-OUT




**RESISTORS : UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.**
**NOTE:**
**1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
**2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.**



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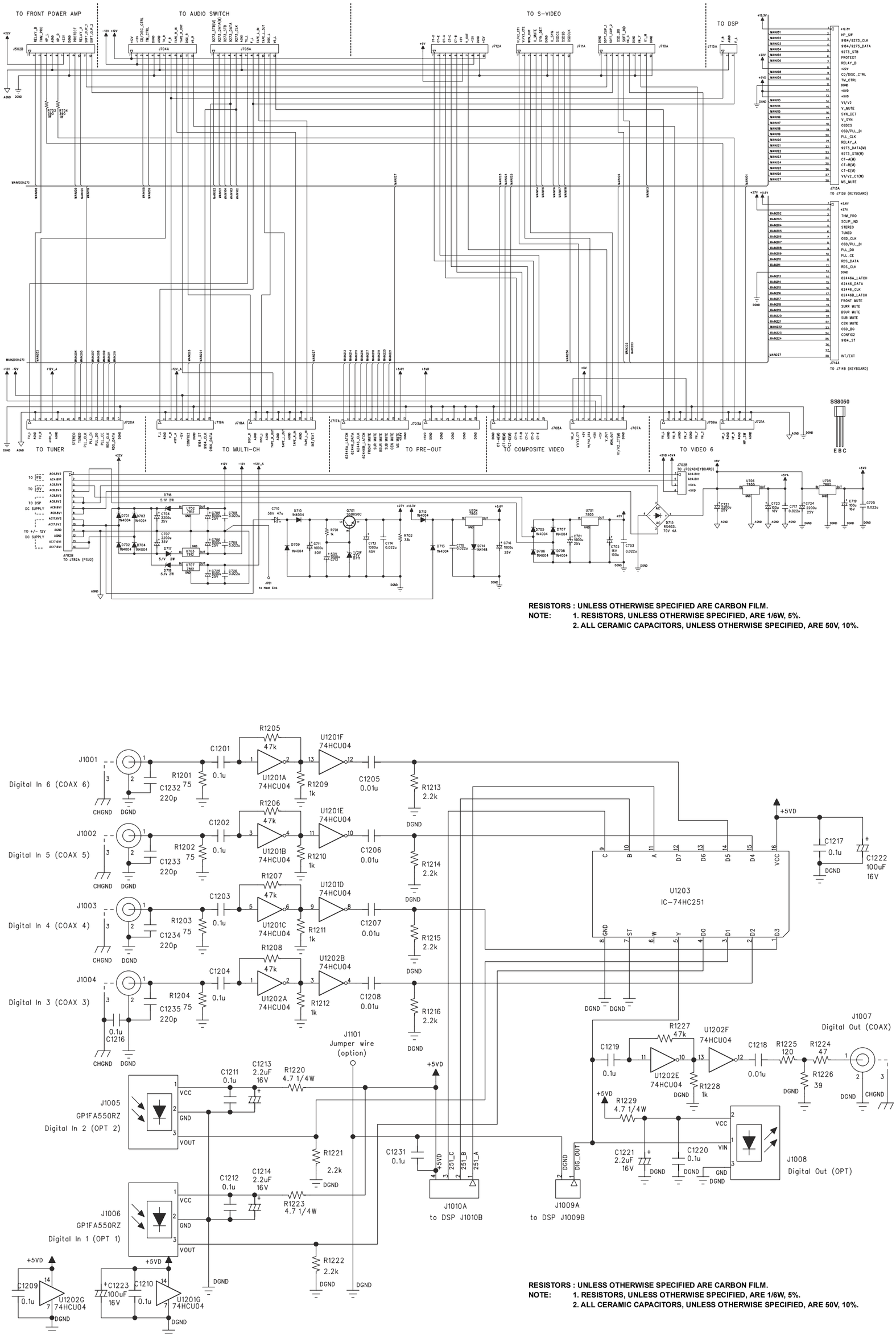
# MAIN BOARD

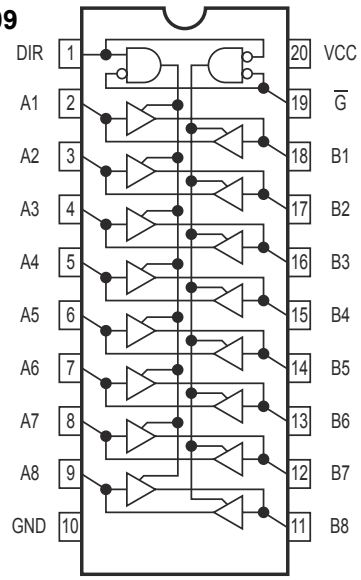



# DIGITAL IN & OUT

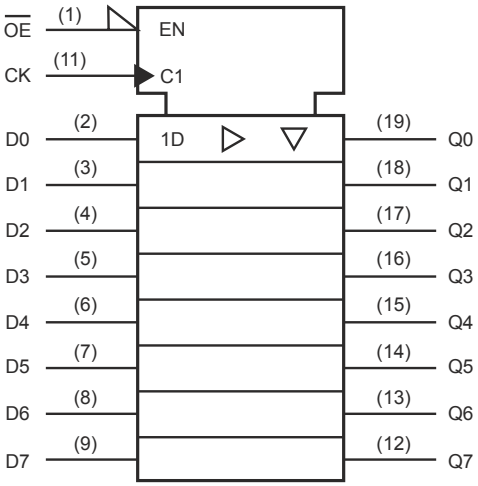
# IC BLOCK DIAGRAM

## 74LVC245
**DSP BOARD: U1002, U1003, U1014**

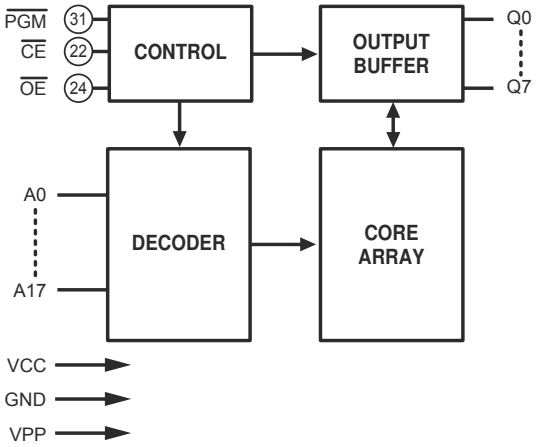
## 74VHC245
**KEYBOARD: U209**



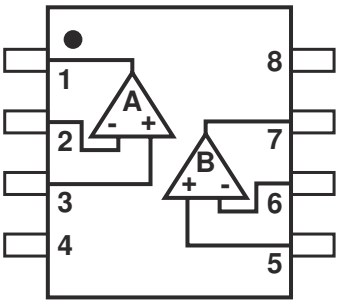

## 74LVQ574
**DSP BOARD: U1008, U1009**



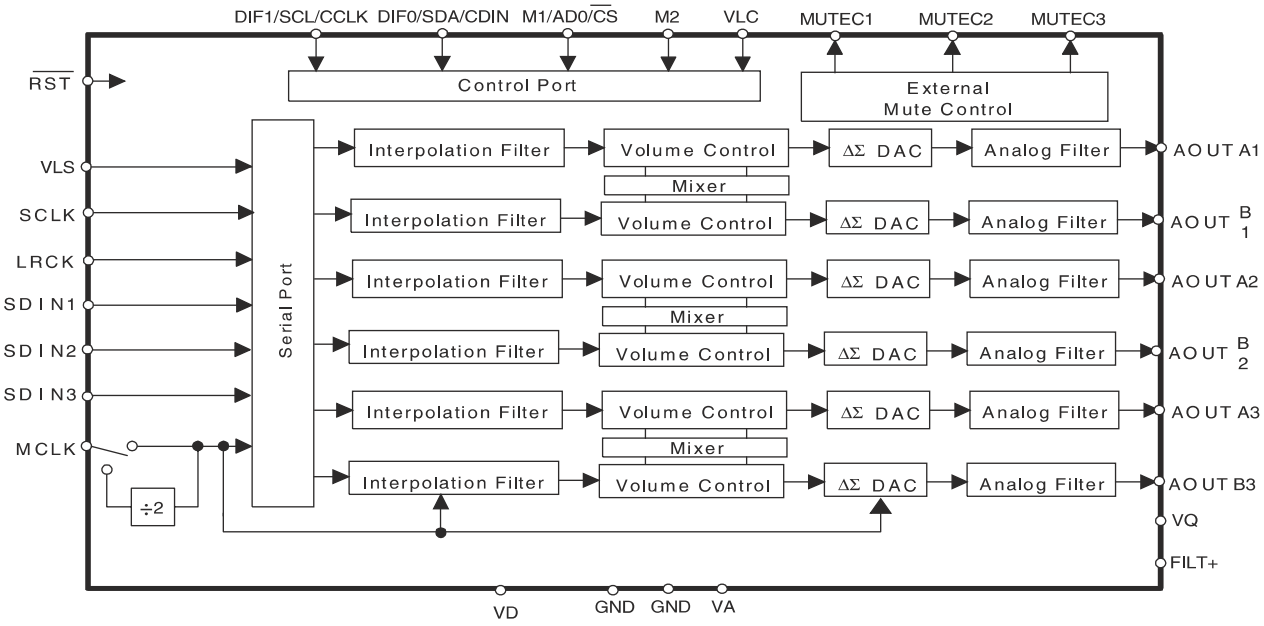

## W27C020
**DSP BOARD: U1007**



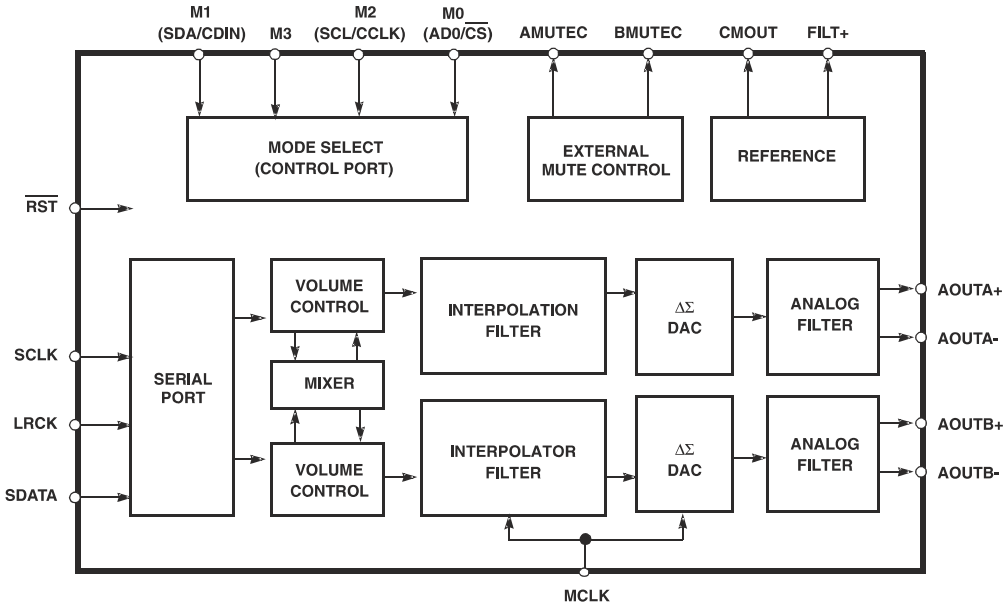

## NJM5532
**DSP BOARD: U1010~U1013, U1023 & U1028**
**MULTI-CHANNEL: U605~U608**
**PRE-OUT BOARD: U609~U613**
**AUDIO BOARD: U305**
**ISC BOARD: U801**



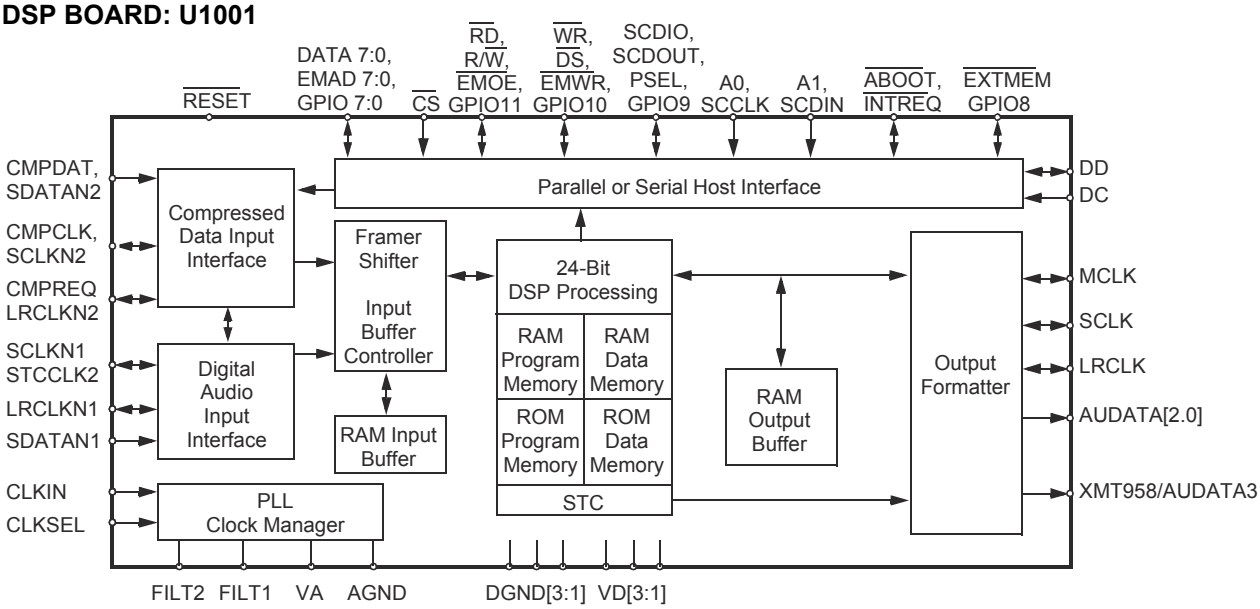

## CS4360KZ
**DSP BOARD: U1026**



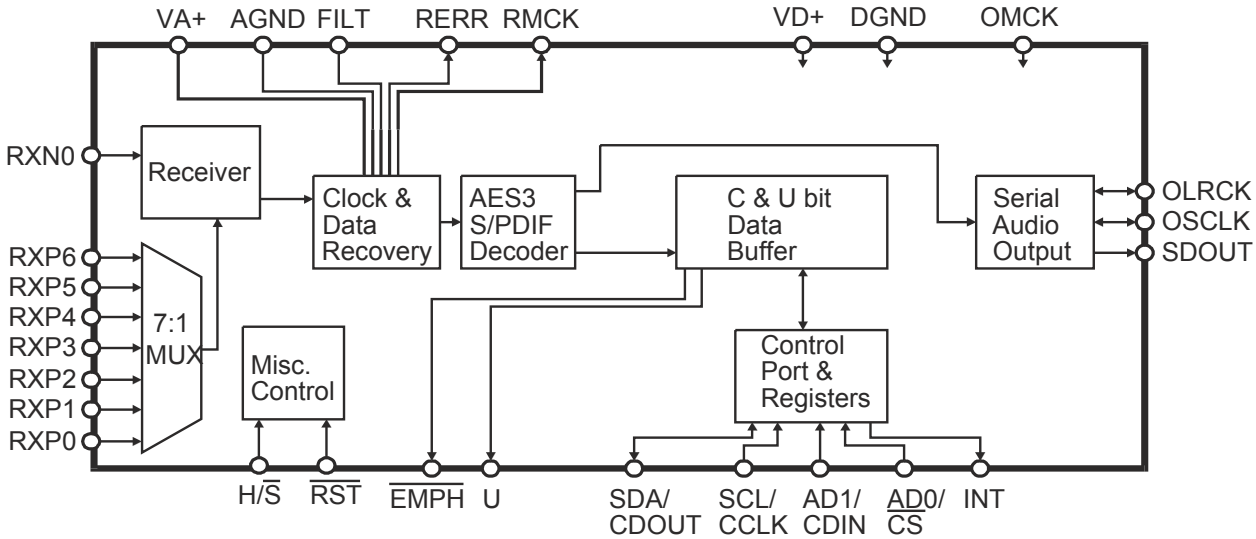
## CS4392
**DSP BOARD: U1025**



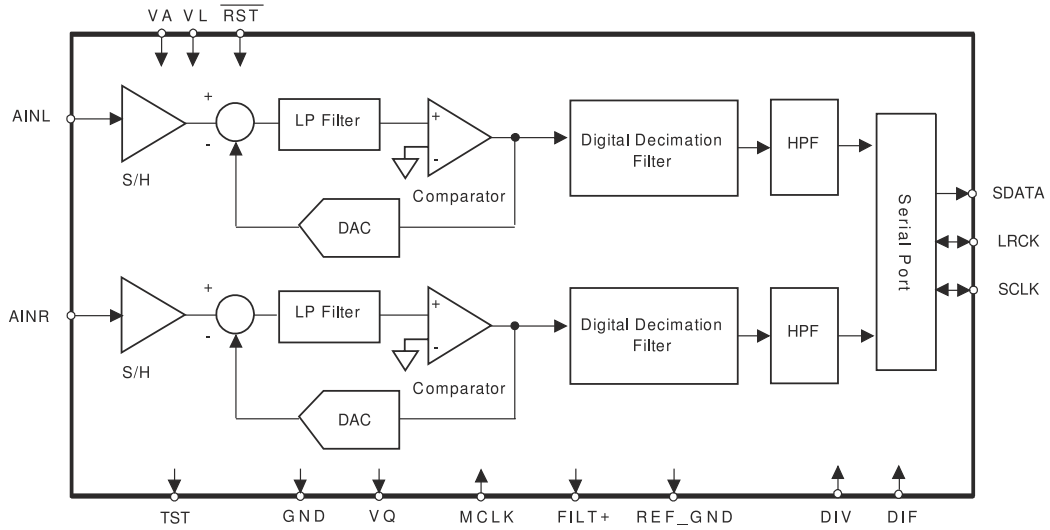

## CS49326
**DSP BOARD: U1001**



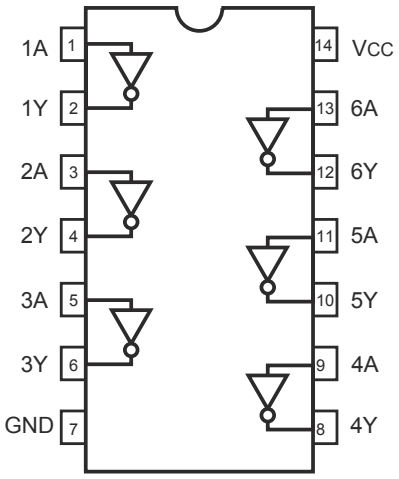

## CS8415A
**DSP BOARD: U1005**



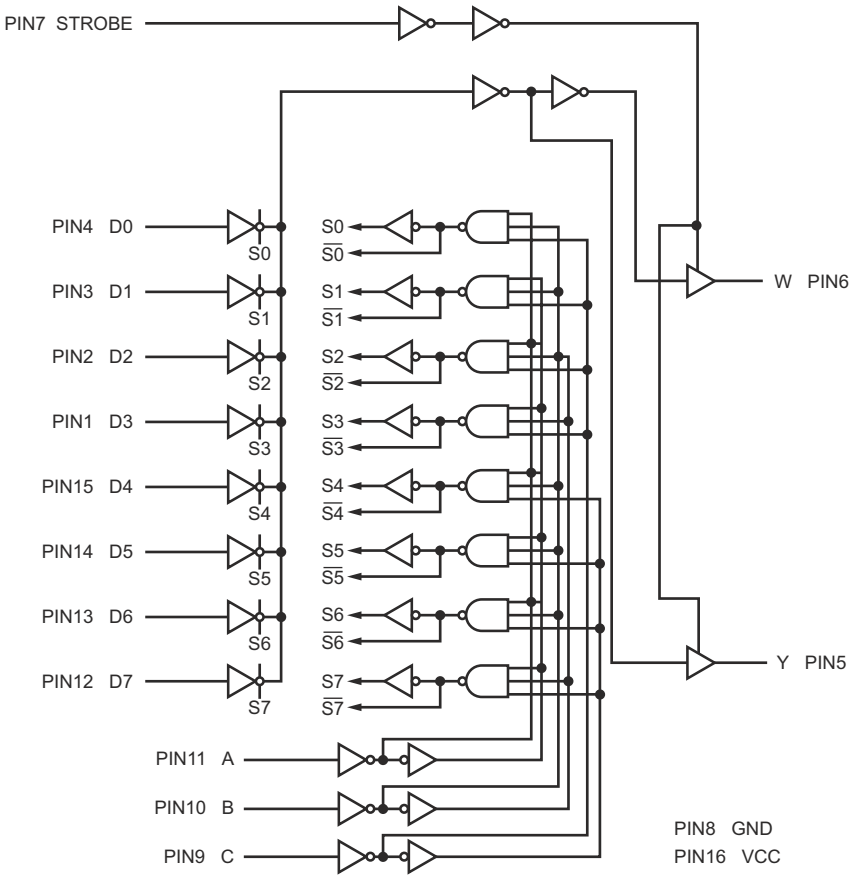
## CS5333KZ
**DSP BOARD: U1027**



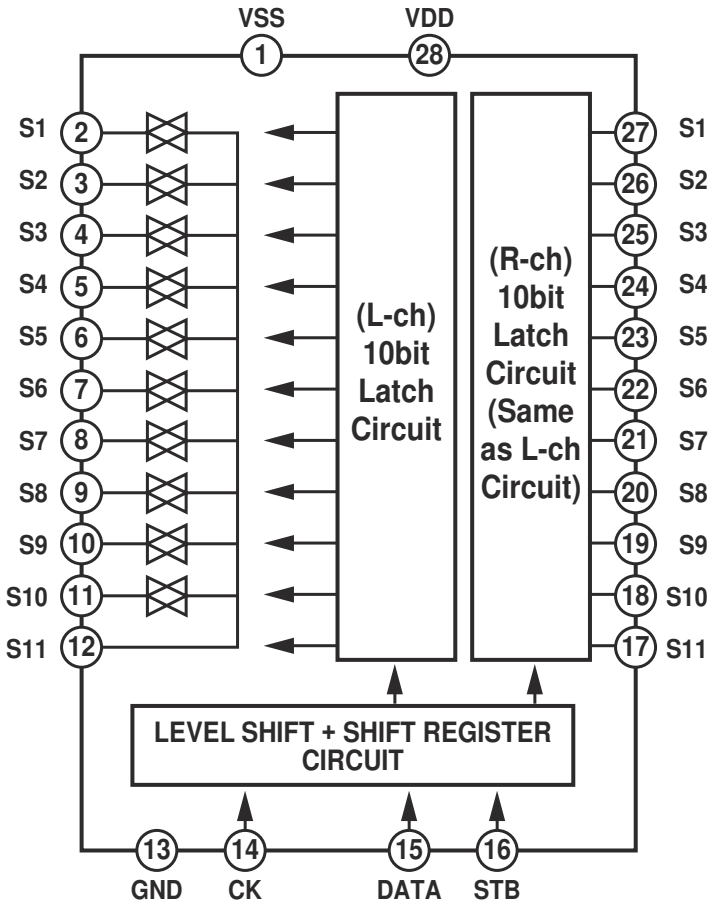

## 74HCU04
**DIGITAL BOARD: U1201 & U1202**



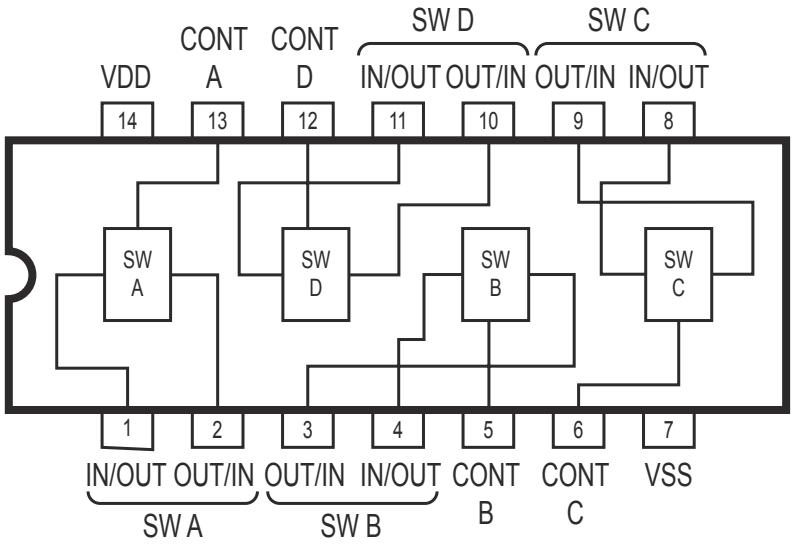

## 74HC251
**DIGITAL BOARD: U1203**



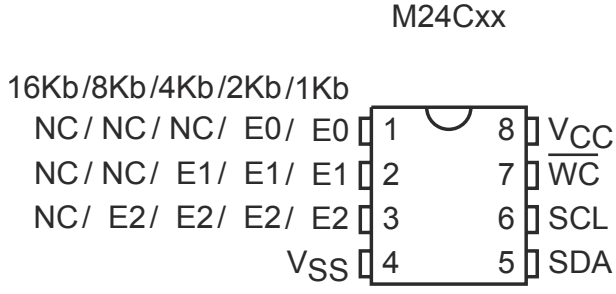
## TC9273
**AUDIO BOARD: U301 & U304**



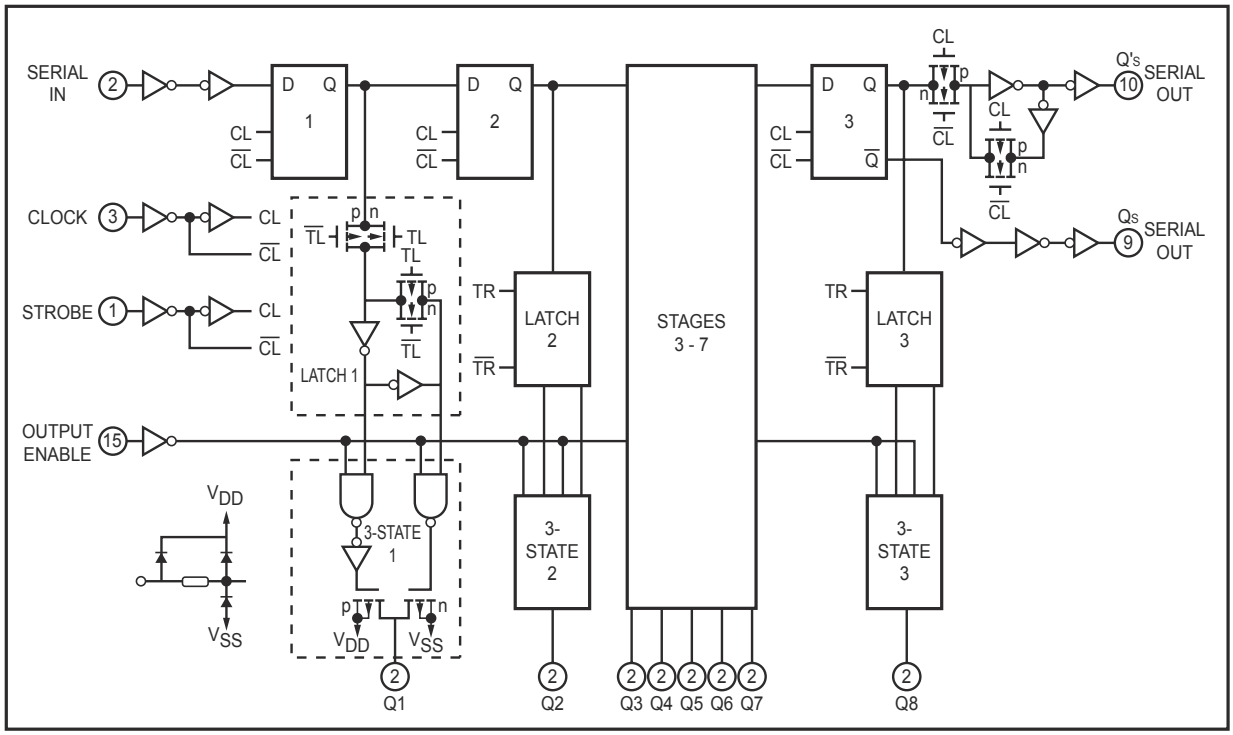

## LC4966
**AUDIO BOARD: U302 & U303**
**COMPOSITE VIDEO: U4201**
**S-VIDEO BOARD: U4104**
**MULTI-CHANNEL: U604**



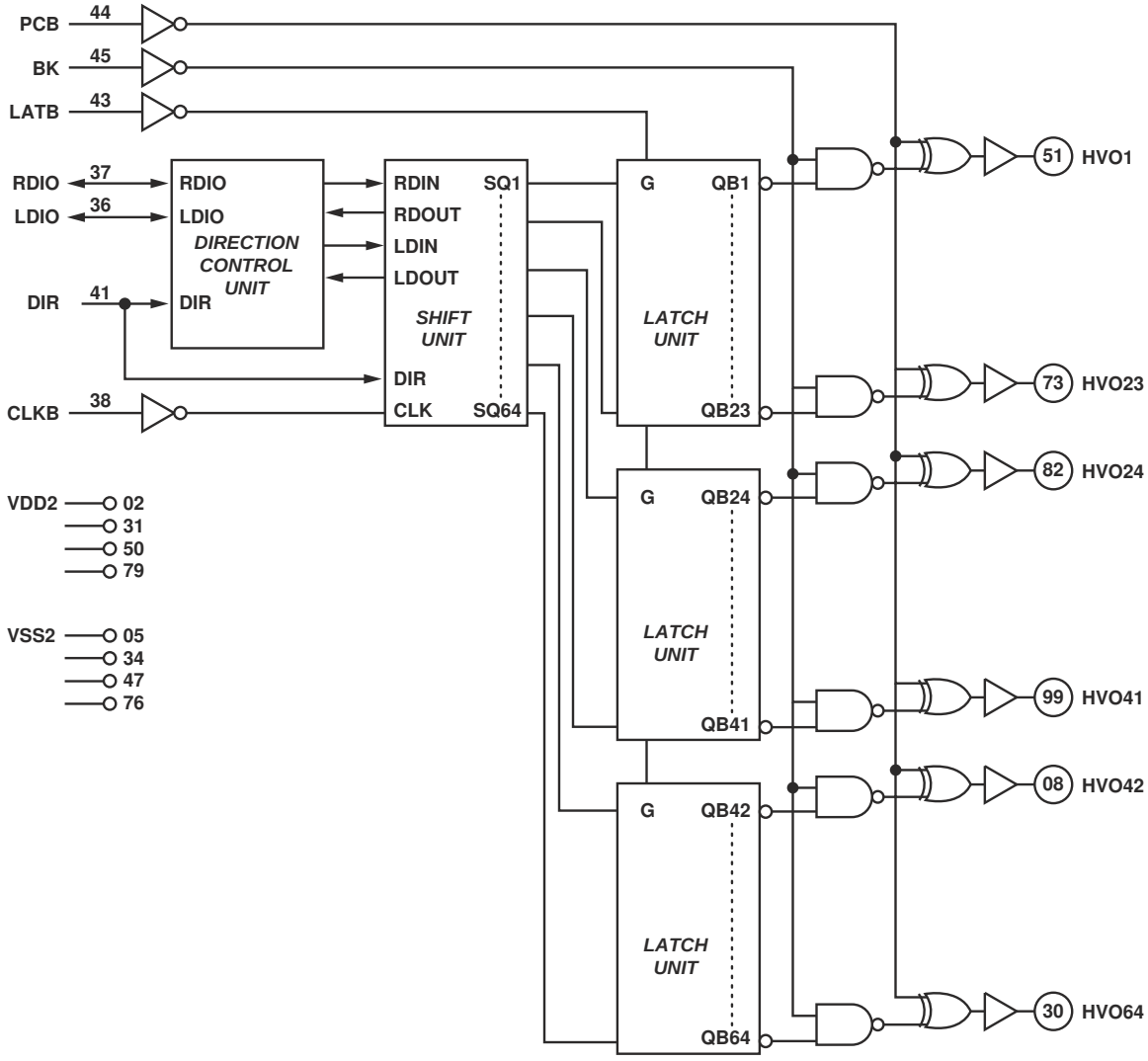

## AT24C16
**KEYBOARD: U210**



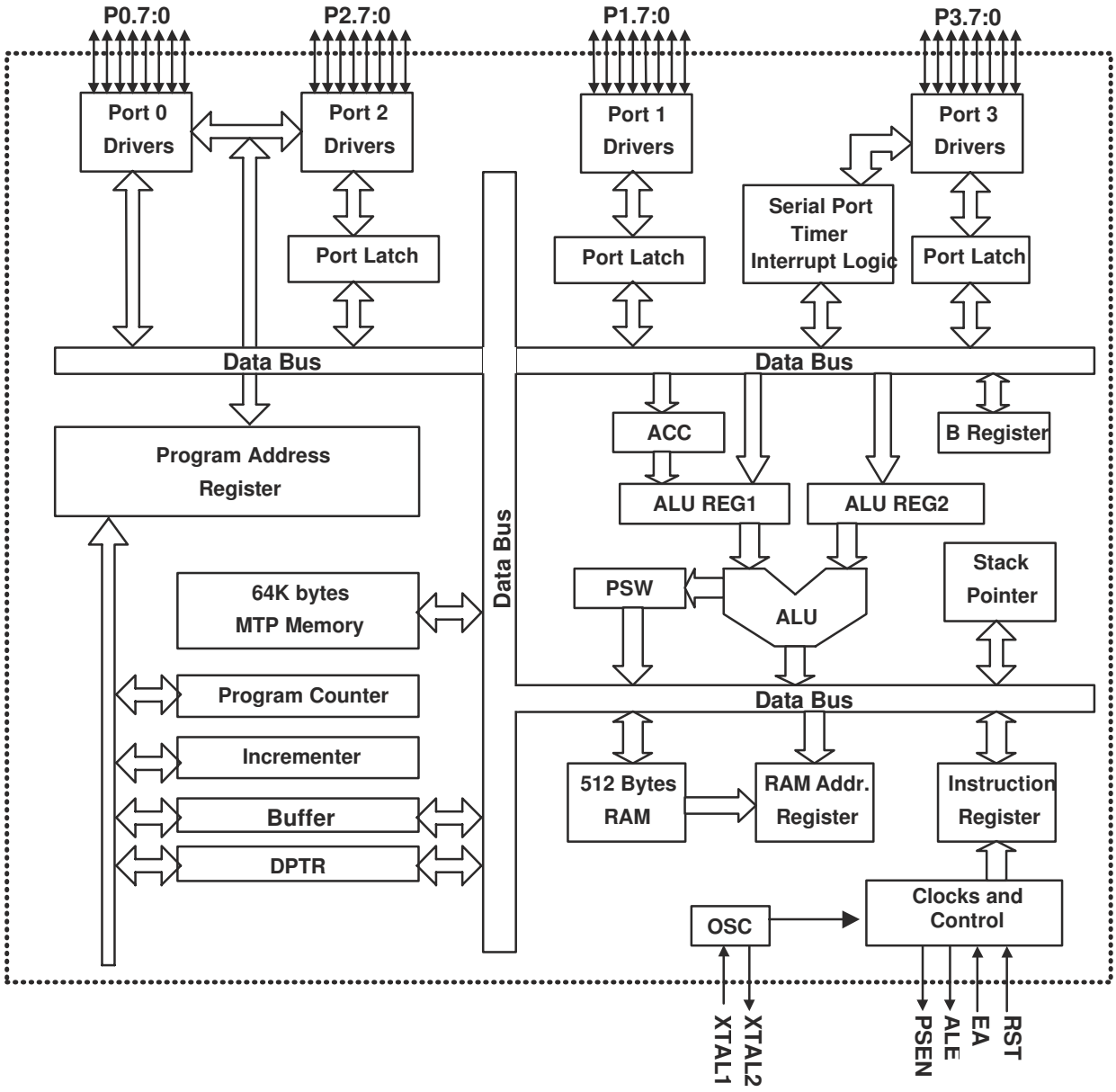
## HCF4094B
### KEYBOARD: U204~U207 & U211



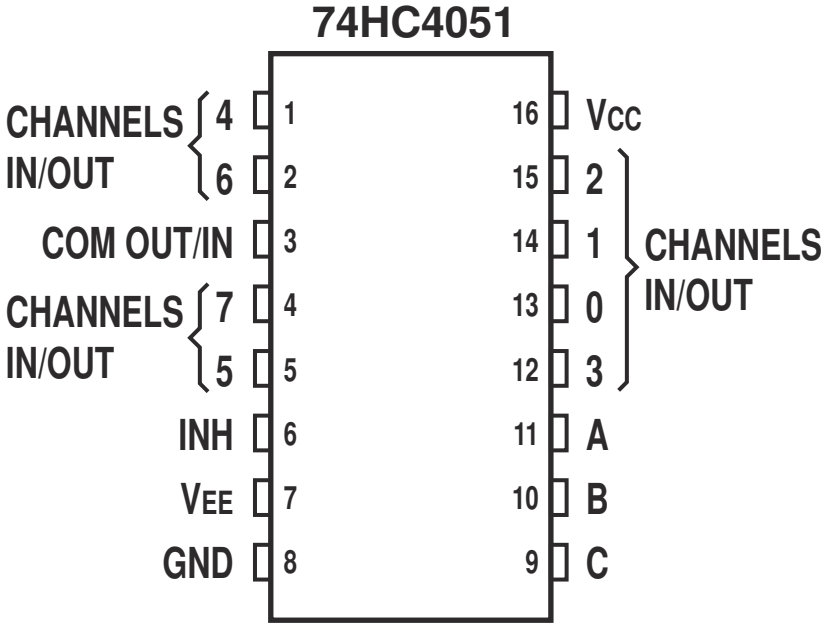

## PT6306
### KEYBOARD: U203



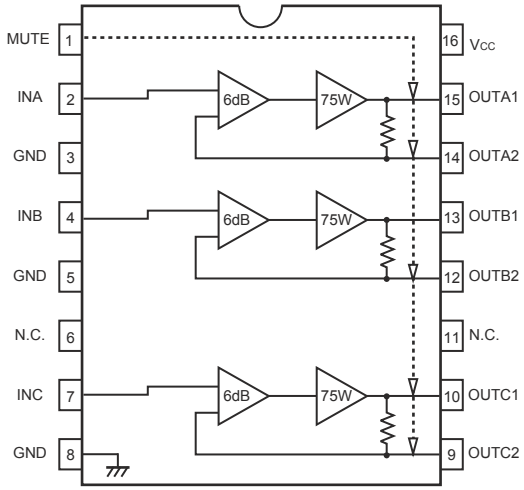
## M6759
**KEYBOARD: U201 & U202**



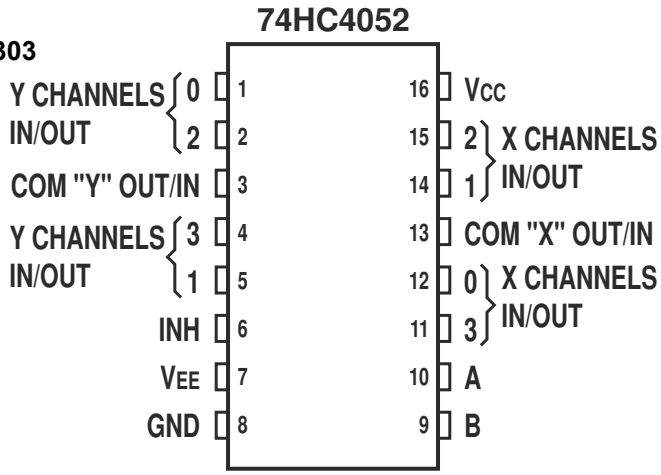

## 74HC4051
**KEYBOARD: U208**



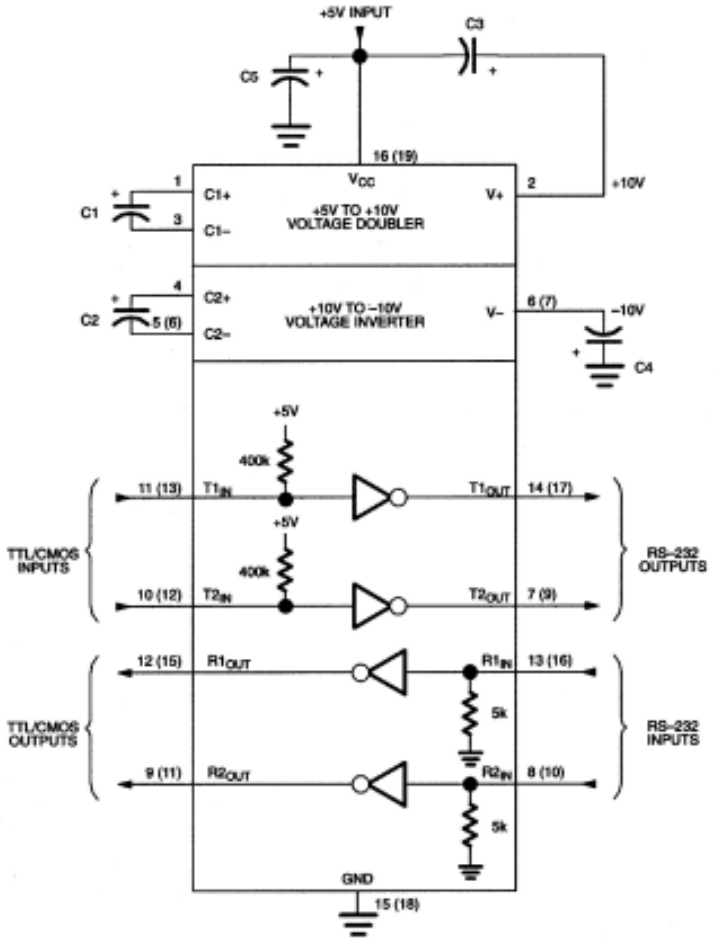
## BA7660FS
**COMPONENT VIDEO BOARD: U4301**



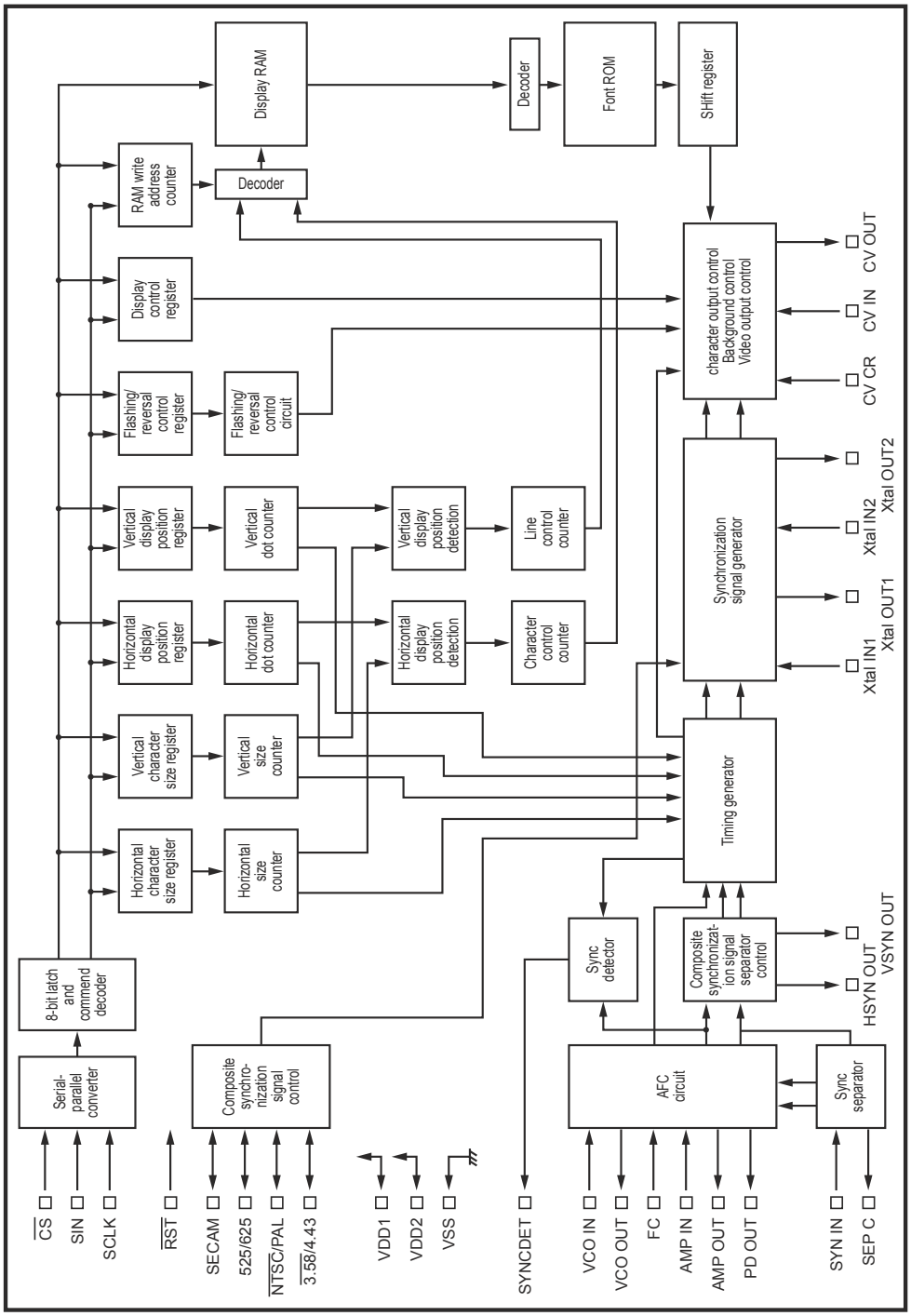

## 74HC4052
**COMPONENT VIDEO BOARD: U4302 & U4303**



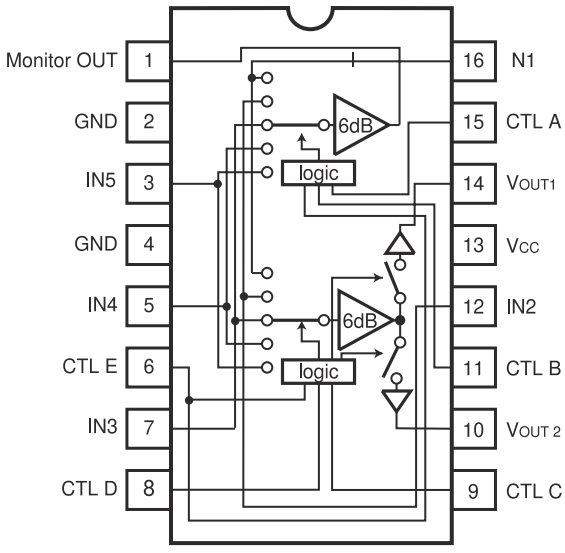

## DS232A
**RS232 BOARD: U901**



## LC74763
**S-VIDEO BOARD: U4101**

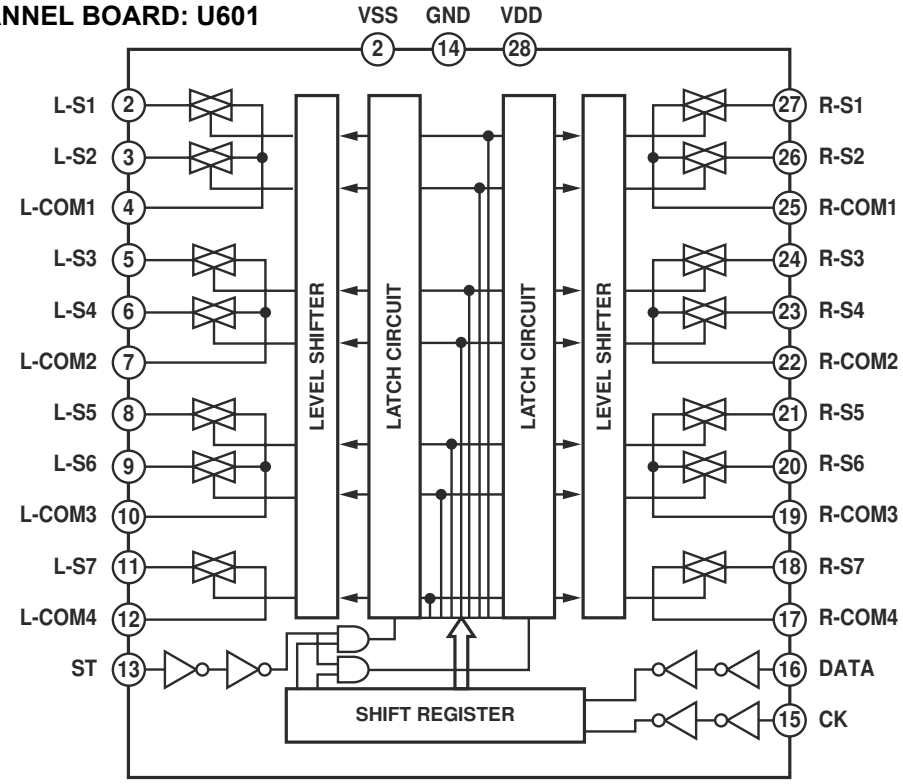



## BA7625
**COMPOSITE VIDEO BOARD: U4202 & U4203**
**S-VIDEO BOARD: U4102 & U4103**



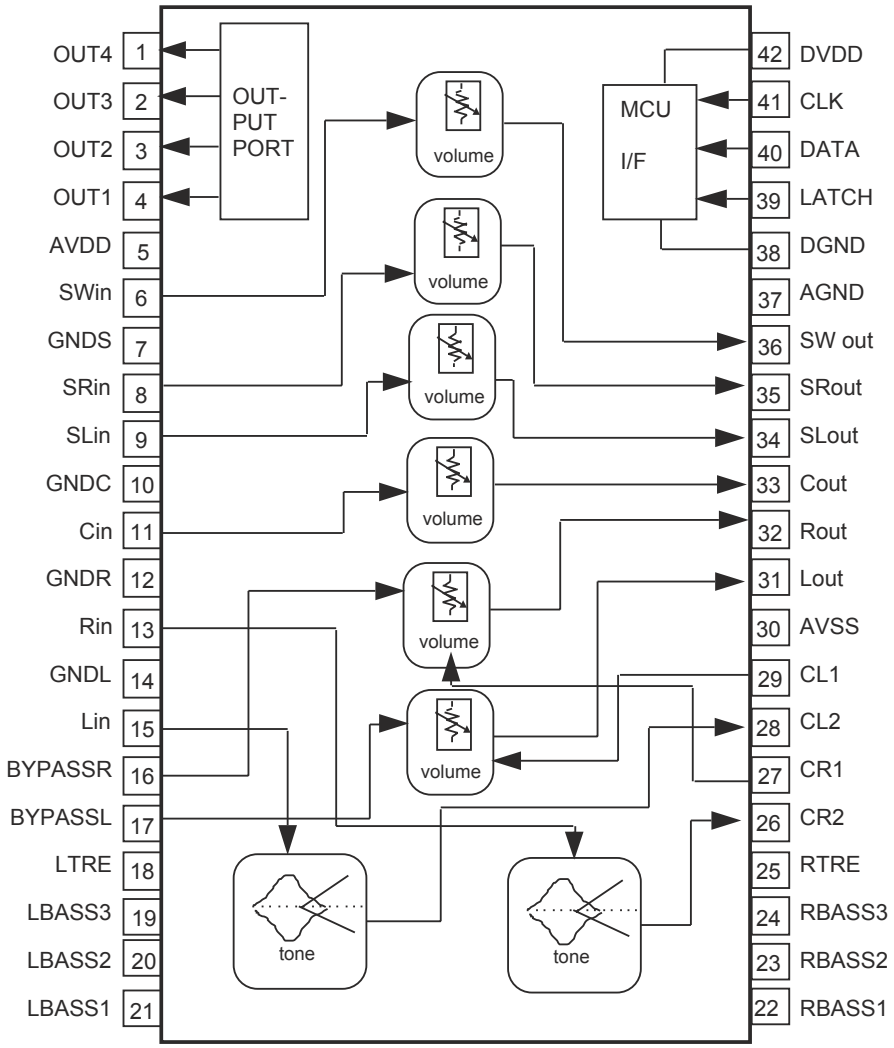
## TC9164N

**MULTI-CHANNEL BOARD: U601**

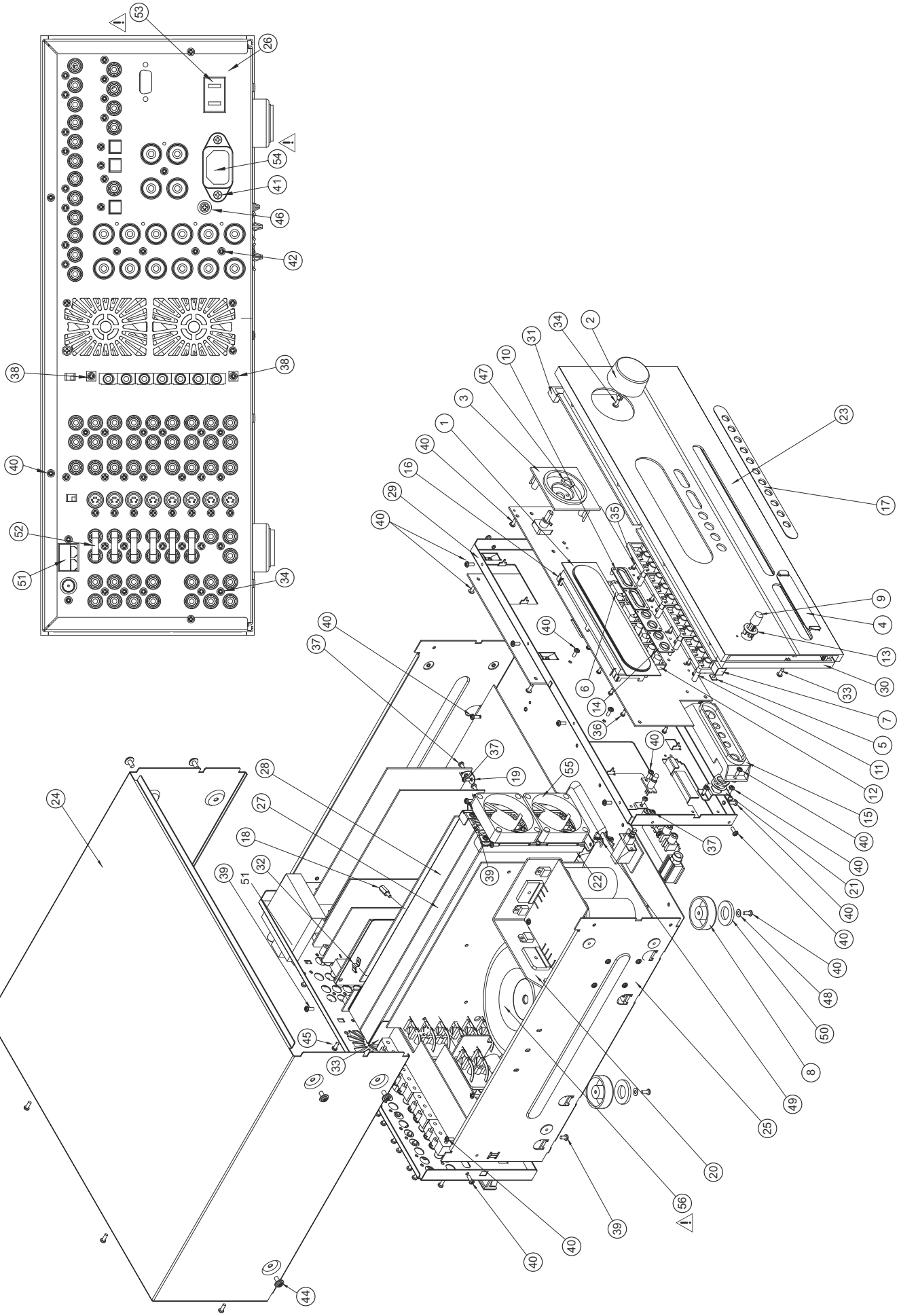



## M62446FP

**PRE-OUT BOARD: U602 & U603**



# EXPLODED VIEW



# EXPLODED VIEW PARTS LIST

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 10-0752001-00-10 | WINDOW LENS | 1 |
| 2 | 10-0752002-71-00 | VOLUME KNOB ASSEMBLY | 1 |
| 3 | 10-0752005-71-00 | VOLUME BEZEL | 1 |
| 4 | 10-0752007-01-00 | VIDEO COVER | 1 |
| 5 | 10-0752011-00-00 | LED LENS | 1 |
| 6 | 10-0752012-01-00 | RACKER BUTTON | 2 |
| 7 | 10-0752015-01-02 | LED BEZEL | 1 |
| 8 | 10-0752017-01-00 | PLASTIC FOOT | 4 |
| 9 | 10-0752022-01-00 | POWER BUTTON | 1 |
| 10 | 10-0752025-01-00 | RACKER BEZEL | 2 |
| 11 | 10-0752032-01-00 | INPUT BUTTON | 4 |
| 12 | 10-0752032-01-00 | DUO BUTTONS | 2 |
| 13 | 10-0752045-01-00 | POWER BUTTON BEZEL | 1 |
| 14 | 10-0752055-01-00 | DUO BEZEL | 2 |
| 15 | 10-0752065-01-00 | VIDEO HOUSING | 1 |
| 16 | 10-0752075-00-00 | DISPLAY BRACKET | 1 |
| 17 | 10-0762035-71-00 | INPUT BUTTON LOZENGE | 1 |
| 18 | 11-0762005-80-00 | HEX SPACER AF5.5 H8+6 | 10 |
| 19 | 11-0570075-80-01 | L BRACKET | 2 |
| 21 | 11-0752065-80-00 | PHONE BRACKET | 1 |
| 22 | 11-0762055-80-01 | HEATSINK MOUNTING BRACKET | 1 |
| 20 | 11-0762048-80-01 | HEATSINK- RECTIFER | 1 |
| 23 | 11-0762000-95-11 | FASCIA | 1 |
| 24*AH | 11-0762003-85-12 | TOP COVER | 1 |
| 24*C | 11-0762013-85-12 | TOP COVER | 1 |
| 25 | 11-0762004-80-02 | BOTTOM CHASSIS | 1 |
| 26*AH | 11-0762006-94-12 | REAR PANEL (AH) | 1 |
| 26*C | 11-0762016-94-12 | REAR PANEL (C) | 1 |
| 27 | 11-0762068-80-02 | EXTRUDED HTSK LEFT | 1 |
| 28 | 11-0762078-80-02 | EXTRUDED HTSK RIGHT | 1 |
| 29 | 11-0762025-80-01 | SUBFASCIA | 1 |
| 30 | 11-0762028-95-00 | SIDE CAP L | 1 |
| 31 | 11-0762038-95-00 | SIDE CAP R | 1 |
| 32 | 11-2100135-80-00 | CLIP THERMAL SWITCH | 1 |
| 33 | 12-0762001-70-00 | FIBRE GASKET INSULATOR | 1 |
| 34 | 14-0300803-54-00 | TAPTITE SCREW 3 X 8 B/H BLK PLT | 63 |
| 35 | 13-0260600-02-00 | SELF TAP SCREW 2.6 X 6 P/H NI PLT | 9 |
| 36 | 13-0260803-02-00 | SELF TAP SCREW 2.6 X 8 B/H NI PLT | 16 |
| 37 | 14-0300600-02-00 | MACHINE SCREW M3 X 6 P/H NI PLT | 19 |
| 38 | 14-0300600-04-00 | MACHINE SCREW M3 X 6 P/H BLK | 4 |
| 39 | 14-0300600-52-00 | SELF TAP SCREW 3 X 6 P/H NI-PLT | 28 |
| 40 | 14-0300800-53-00 | SELF TAP SCREW 3 X 8 B/B ZINC PLT | 39 |
| 41 | 14-0300804-54-00 | TAPTITE SCREW M3 X 8 K/H BLK PLT | 5 |
| 42 | 14-0301000-54-00 | TAPTITE SCREW 3 X 10 P/H BLK | 5 |
| 43 | 14-0301000-02-00 | MACHINE SCREW M3 X 10 PAN HEAD NI PLT | 25 |
| 44 | 14-0400802-04-00 | MACHINE SCREW M4 X 8 WASHER HEAD BLK | 6 |
| 45 | 14-0400803-54-00 | TAPTITE SCREW 4 X 8 B/H BLK | 4 |
| 46 | 14-0401002-04-00 | MACHINE SCREW M4 X 10 WASHER HEAD BLK | 1 |
| 47 | 15-0900220-11-30 | NUT ZINC PLATED M9.0 X 2.2mm | 1 |
| 48 | 16-0350080-04-35 | STEEL WASHER I/D 3.5 X O/D 8.0 0.4mm ZINC PLT | 6 |
| 49 | 17-0500960-00-01 | PCB SUPPORTER H 9.6mm PCB HOLE 4mm | 3 |

| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 50 | 17-1402603-30-22 | RUBBER FOOT I/D14 X O/D26 X 3 HH-48C | 4 |
| 51*AH | 29-4000003-00-38 | AM/FM TUNER MODULE KST-MB114MA1-22 | 1 |
| 51*C | 29-4000002-00-38 | AM/FM TUNER MODULE KST-MB114MA1-20 | 1 |
| 52 | 34-0061030-00-67 | JUMPER PLUG PITCH 14mm | 6 |
| 53*AH ⚠ | 34-0101001-00-70 | AC OUTLET US POLARIZED 3512-MITIBKUC | 1 |
| 53*C ⚠ | 34-0100002-00-78 | AC OUTLET CEE 7 2.5A/250V A302D0060P | 1 |
| 54 ⚠ | 34-0101000-00-67 | AC SOCKET IEC 15A/250V | 1 |
| 55 | 37-2031245-00-63 | FAN DC 60X60X20mm 12DVC 0.27A 4500RPM | 2 |
| 56 ⚠ | 25-0090056-00-21 | XFORMER PW TOROIDAL 120V/240V TI-0130203 ISS 6 | 1 |

**NOTE:**

THE COMPONENTS IDENTIFIED BY ⚠ MARK ARE CRITICAL FOR RISK OF FIRE AND ELECTRICAL SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

<*AH > : USA, CANADIAN MODEL ONLY.

<*C > : EUROPEAN MODEL ONLY.

# ELECTRICAL PARTS LIST (refer to schematic diagram for non critical component values)

| Reference No. | Part No. | Description |
|---|---|---|
| **PCB MODULE** | 95-097625-12-01 | POWER AMPLIFIER MODULE |
| **FRONT & CENTER AMPLIFIER BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-40-00 | FRONT AND CENTER AMP ASSEMBLY |
| ***CAPACITORS*** | | |
| C501,C513,C525 | 22-3476052-00-43 | CAP ELEC SS 4.7uF 50V 20% |
| C510-C511,C521-C522,C534-C535 | 22-3101082-00-28 | CAP ELEC GR 100uF 100V 20% |
| C503,C515,C527 | 22-4110203-10-28 | CAP MYLAR MCC-R 1000P 100V 10% |
| C505,C517,C529 | 22-3471022-00-28 | CAP ELEC GR 470uF 16V 20% |
| C508,C519,C531 | 22-4115403-10-10 | CAP MYLAR KT-G 150nF 100V 10% |
| C537-C539 | 22-4210402-00-31 | CAP MPF 0.1uF 63V 5% DMF 5 SERIES |
| C565-C566 | 22-3470022-00-43 | CAP ELEC SS 47uF 16V 20% |
| ***DIODES*** | | |
| D501-D503,D505-D507,D509-D514, D522-D528,D531-D536 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| D529-D530 | 20-3222002-02-01 | DIODE ZENER BZX55 22V 1/2W 5% |
| ***COILS*** | | |
| L501-L503 | 24-1000001-00-28 | AIR COIL 0.2uH 10% 1 X 9 X 13.5 TURNS |
| ***RELAYS*** | | |
| M501-M502,M505 | 32-3124051-03-40 | RELAY POWER DC24V 5A/250V 2P1T |
| ***THERMISTOR*** | | |
| M504,M507 | 23-6110100-00-08 | THERMISTOR PTC PTH9MO4BH471TS2F333 |
| ***THERMAL PROTECTOR*** | | |
| M506 | 39-0000007-00-15 | THERMAL CUT OFF SWITCH 90C UP72 |
| ***TRANSISTORS*** | | |
| Q507,Q519,Q531 | 21-1011610-30-12 | XTR PW NPN 1.5A/160V TO-220ML 2SC4159E |
| Q510,Q522,Q533 | 21-1152310-10-12 | XTR PW NPN 15A/230V TO-3PB 2SC5669 |
| Q501-Q503,Q511,Q513-Q515,Q523, Q525-Q527,Q535 | 21-0000410-00-12 | XTR SS NPN HFE160-320 130MHz 2SC2362KF |
| Q504,Q506,Q516,Q518,Q529-Q530, Q562,Q565,Q568 | 21-1011210-50-12 | XTR PW PNP 1A/100V TO-126 2SD600KE |
| Q505,Q508,Q517,Q520,Q528,Q532 | 21-1011611-30-12 | XTR PW PNP 1.5A/160V TO-220ML 2SA1606E |
| Q509,Q521,Q534 | 21-1152311-10-12 | XTR PW PNP 15A/230V TO-3PB 2SA2031 |
| Q543-Q545 | 21-0000380-70-14 | XTR SS NPN HFE20 250MHz DTC-123ESA |
| Q550-Q551,Q553-Q554,Q556-Q557, Q561,Q564,Q567 | 21-0100410-00-12 | XTR SS PNP HFE 280-560 110MHz 2SA1016KG-AA |
| Q563,Q566,Q569 | 21-1011211-50-12 | XTR PW PNP 1A/100V TO-126 2SB631KE |
| ***RESISTORS*** | | |
| R527-R528,R548,R556,R575-R576 | 23-2100230-00-00 | RES MO 10 OHM 5% 1/2W |
| R522,R545,R571 | 30-0102106-01-64 | VR SEMI-FIX 1K OHM B 30% VER RM-063-1K |

| Reference No. | Part No. | Description |
|---|---|---|
| R523,R547,R574 | 23-4228280-08-20 | RES RN 0.22 OHM 5% 5W SIL 3 PIN |
| R589-R591 | 23-2100250-00-01 | RES MO 10 OHM 5% 2W |
| **SURROUND LEFT/RIGHT/BACK AMPLIFIER BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-18-00 | SURROUND LEFT/RIGHT/BACK AMP ASSEMBLY |
| ***CAPACITORS*** | | |
| C554 | 22-3100022-00-43 | CAP ELEC SS 10uF 16V 20% |
| C805-C806,C836 | 22-4110203-10-28 | CAP MYLAR MCC-R 1000P 100V 10% |
| C801-C802,C835 | 22-3476052-00-43 | CAP ELEC SS 4.7uF 50V 20% |
| C809-C810,C837 | 22-3471022-00-28 | CAP ELEC GR 470uF 16V 20% |
| C815-C816,C840 | 22-4115403-10-10 | CAP MYLAR KT-G 150nF 100V 10% |
| C819-C822,C842-C843 | 22-3101082-00-28 | CAP ELEC GR 100uF 100V 20% |
| C823-C824,C844 | 22-4210402-00-31 | CAP MpF 0.1uF 63V 5% DMF 5 SERIES |
| C871,C873 | 22-3470052-00-43 | CAP ELEC SS 47uF 50V 20% |
| C872,C874,C875 | 22-3100052-00-43 | CAP ELEC SS 10uF 50V 20% |
| ***DIODES*** | | |
| D801-D809,D814,D815-D818,D820-D824,D825,D871-D874 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| D878-D879 | 20-3133912-20-36 | DIODE ZENER BZX85 3.3V 1W 5% |
| ***COILS*** | | |
| L801-L803 | 24-1000001-00-28 | AIR COIL 0.2uH 10% 1 X 9 X 13.5 TURNS |
| ***RELAYS*** | | |
| M802,M801 | 32-3124051-03-40 | RELAY POWER DC24V 5A/250V 2P1T |
| ***THERMISTOR*** | | |
| M807 | 23-6110100-00-08 | THERMISTOR PTC PTH9MO4BH471TS2F333 |
| ***TRANSISTORS*** | | |
| Q815-Q816,Q844,Q850-Q852 | 21-1011611-30-12 | XTR PW PNP 1.5A/160V TO-220ML 2SA1606E |
| Q817-Q818,Q845 | 21-1152310-10-12 | XTR PW NPN 15A/230V TO-3PB 2SC5669 |
| Q819-Q820,Q846 | 21-1152311-10-12 | XTR PW PNP 15A/230V TO-3PB 2SA2031 |
| Q829,Q848 | 21-0000380-70-14 | XTR SS NPN HFE20 250MHz DTC-123ESA |
| Q512,Q807-Q808,Q823-Q824,Q826-Q827,Q834-Q835,Q837 | 21-0100410-00-12 | XTR SS PNP HFE 280-560 110MHz 2SA1016KG-AA |
| Q545-Q546,Q801-Q806,Q821-Q822, Q838-Q840,Q847 | 21-0000410-00-12 | XTR SS NPN HFE160-320 130MHz 2SC2362KF |
| Q809-Q812,Q841-Q842,Q854, Q856,Q858 | 21-1011210-50-12 | XTR PW PNP 1A/100V TO-126 2SD600KE |
| Q813-Q814,Q843 | 21-1011610-30-12 | XTR PW NPN 1.5A/160V TO-220ML 2SC4159E |
| Q855,Q857,Q859 | 21-1011211-50-12 | XTR PW PNP 1A/100V TO-126 2SB631KE |

| Reference No. | Part No. | Description |
|---|---|---|
| Q871 | 21-1036003-50-06 | XTR PW 3A/60V TO-126 2SB772Q |
| Q872 | 21-0000390-70-14 | XTR SS NPN HFE270-560 180MHz 2SC1740S |
| ***RESISTORS*** | | |
| R843-R844,R8103 | 23-4228280-08-20 | RES RN 0.22 OHM 5% 5W SIL 3 PIN |
| R857-R858,R8110 | 23-2100250-00-01 | RES MO 10 OHM 5% 2W |
| R829-R830,R837-R838,R894,R898 | 23-2100230-00-00 | RES MO 10 OHM 5% 1/2W |
| R835-R836,R897 | 30-0102106-01-64 | VR SEMI-FIX CF 1K OHM B 30% VER RM-063-1K |
| ***REGULATORS*** | | |
| U871 | 27-3001201-17-14 | VOLT REG 12V 1A TO-220 NJM7812 |
| U872 | 27-3000501-17-14 | VOLT REG 5V 1A TO-220 NJM7805FA |
| **DSP BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-65-00 | DSP ASSEMBLY |
| ***CAPACITORS*** | | |
| C1004,C1014,C1016,C1062,C1083, C1096,C1100,C1155,C1173-C1174 | 22-3106052-00-43 | CAP ELEC SS 1uF 50V 20% |
| C1005 | 22-3226052-00-43 | CAP ELEC SS 2.2uF 50V 20% |
| C1011 | 22-4210402-00-31 | CAP MPF 0.1uF 63V 5% DMF 5 SERIES |
| C1012,C1060,C1072-C1073,C1117 | 22-3101022-00-43 | CAP ELEC SS 100uF 16V 20% |
| C1021-C1020,C1030-C1031,C1040-C1041,C1050-C1051,C1091,C1094 | 22-3336052-00-43 | CAP ELEC SS 3.3uF 50V 20% |
| C1109-C1112 | 22-3470022-00-43 | CAP ELEC SS 47uF 16V 20% |
| C1119,C1133 | 22-3102022-00-28 | CAP ELEC GR 1000uF 16V 20% |
| C1137-C1138,C1143-C1144 | 22-3100052-00-43 | CAP ELEC SS 10uF 50V 20% |
| C1152-C1154,C1092,C1079,C1171-C1172 | 22-3100022-00-43 | CAP ELEC SS 10uF 16V 20% |
| C1003,C1008-C1009,C1013,C1015, C1017-C1019,C1061,C1074-C1076, C1078,C1081-C1082,C1090,C1093, C1095,C1099,C1124-C1128,C1150-C1151,C1177-C1178 | 45-0104056-57-57 | CAP CER SMD 0.1uF 50V 20% X5V 0603 |
| C1025,C1029,C1035,C1039,C1045, C1049,C1055,C1059,C1114,C1130-C1131 | 45-0472055-55-57 | CAP CER SMD 4.7nF 50V 10% X7R 0603 |
| C1024,C1028,C1034,C1038,C1044, C1048,C1054,C1058 | 45-0681055-55-57 | CAP CER SMD 680pF 50V 10% X7R 0603 |
| C1101-C1108 | 45-0101055-55-57 | CAP CER SMD 100pF 50V 10% X7R 0603 |
| C1006,C1121 | 45-0221055-55-57 | CAP CER SMD 220pF 50V 10% X7R 0603 |
| C1129 | 45-0332055-55-57 | CAP CER SMD 3.3nF 50V 10% X7R 0603 |
| C1132 | 45-0102055-55-57 | CAP CER SMD 1nF 50V 10% X7R 0603 |
| C1134-C1136 | 45-0222055-55-57 | CAP CER SMD 2.2nF 50V 10% X7R 0603 |
| C1022,C1026,C1032,C1036,C1042, C1046,C1052,C1056,C1139-C1140, C1145-C1146 | 45-0272055-55-57 | CAP CER SMD 2.7nF 50V 10% X7R 0603 |
| C1141-C1142,C1147-C1148 | 45-0561055-55-57 | CAP CER SMD 560pF 50v 10% X7R 0603 |

| Reference No. | Part No. | Description |
|---|---|---|
| C1166 | 45-0331055-55-57 | CAP CER SMD 330pF 50V 10% X7R 0603 |
| C1007,C1010,C1175-C1176 | 45-0103055-55-57 | CAP CER SMD 10nF 50V 10% X7R 0603 |
| ***INDUCTORS*** | | |
| L1001-L1008 | 24-0100127-00-28 | IND CHOKE 10uH 10% EC36 EC36-100K |
| ***TRANSISTORS*** | | |
| Q1001-Q1003 | 21-0000010-00-46 | XTR SS NPN HEF 100 200MHz TO-92 C1815Y |
| Q1008-Q1015 | 21-0000350-70-00 | XTR SS NPN HFE200-700 30MHz SPT RN1241A |
| Q1004-Q1007,Q1016 | 21-0100390-70-14 | XTR SS PNP HFE 30 250MHz SPT DTA 114ESA |
| ***RESISTORS(SMD)*** | | |
| J1002,R1010,R1099 | 44-0000027-11-00 | RES SMD 0 OHM 5% 1/10W 0805 |
| R1001-R1002,R1079,R1083 | 44-0470120-51-00 | RES SMD 4.7K OHM 5% 1/16W 0603 |
| R1003-R1006 | 44-0330120-51-00 | RES SMD 3.3K OHM 5% 1/16W 0603 |
| R1007,R1191-R1194 | 44-0330920-51-00 | RES SMD 33 OHM 5% 1/16W 0603 |
| R1008,R1020,R1022,R1026,R1036, R1040,R1050,R1054,R1064,R1068, R1104,R1106,R1108,R1110,R1114, R1128,R1131-R1138 | 44-0100220-51-00 | RES SMD 10K OHM 5% 1/16W 0603 |
| R1009 | 44-0200320-51-00 | RES SMD 200K OHM 5% 1/16W 0603 |
| R1013 | 44-0120120-51-00 | RES SMD 1.2K OHM 5% 1/16W 0603 |
| R1023,R1030,R1037,R1044,R1051 R1065,R1072,R1103,R1105,R1107, R1109,R1058,R1120-R1121,R1126-R1127,R1129 | 44-0150120-51-00 | RES SMD 1.5K OHM 5% 1/16W 0603 |
| R1024,R1031,R1038,R1045,R1052, R1059,R1073,R1066 | 44-0620020-51-00 | RES SMD 620 OHM 5% 1/16W 0603 |
| R1027-R1028,R1033,R1035,R1041 R1042,R1047,R1049,R1055-R1056, R1061,R1063,R1069-R1070,R1075, R1077-R1078,R1080,R1084 | 44-0220120-51-00 | RES SMD 2.2K OHM 5% 1/16W 0603 |
| R1081 | 44-0330010-51-00 | RES SMD 330 OHM 1% 1/16W 0603 |
| R1082 | 44-0180020-51-00 | RES SMD 180 OHM 5% 1/16W 0603 |
| R1090-R1091 | 44-0270020-51-00 | RES SMD 270 OHM 5% 1/16W 0603 |
| R1092-R1094,R1112-R1113,R1115, R1181-R1184 | 44-0100020-51-00 | RES SMD 100 OHM 5% 1/16W 0603 |
| R1116-R1117,R1122-R1123 | 44-0562117-51-00 | RES SMD 5.62K OHM 1% 1/10W 0603 |
| R1118-R1119,R1124-R1125 | 44-0118117-51-00 | RES SMD 1.18K OHM 1%1/10W 0603 |
| R1130,R1173-R1176 | 44-0470220-51-00 | RES SMD 47K OHM 5% 1/16W 0603 |
| R1166 | 44-0100120-51-00 | RES SMD 1K OHM 5% 1/16W 0603 |
| R1172-R1172 | 44-0330220-51-00 | RES SMD 33K OHM 5% 1/16W 0603 |
| R1177-R1178 | 44-0150020-51-00 | RES SMD 150 OHM 5% 1/16W 0603 |
| R1195-R1198 | 44-0200120-51-00 | RES SMD 2K OHM 5% 1/16W 0603 |
| ***ICS*** | | |
| U1001 | 27-9493260-04-70 | I.C. DD DTS & MPEG DECODER CS49326 |
| U1004 | 27-0115790-25-00 | I.C. LOGIC QUAD 2-INPUT SELECTOR 74HC157MIR |

| Reference No. | Part No. | Description |
|---|---|---|
| U1005 | 27-9841500-25-53 | I.C. 96KHz DIGITAL AUDIO INTERFACE RECEIVER CS8415A-CS |
| U1007 | 27-2325607-00-88 | I.C. EEPROM 256 X 8 BYTE 70nS W27C02-70 |
| U1008-U1009 | 27-0657490-18-00 | I.C. LOGIC OCTAL D-FLIP FLOPS 74LVQ574M |
| U1002-U1003,U1014 | 27-0324590-24-00 | I.C. LOGIC OCTAL BIDIRECTIONAL TRANSCEIVER 74LVC245 |
| U1010-U1013,U1028,U1023 | 27-7055320-18-14 | I.C. AUDIO LOW NOISE OP-AMP NJM5532M |
| U1025 | 27-9439200-24-53 | I.C. 24BIT 192KHz STEREO DAC CS4392-KZ |
| U1026 | 27-9436000-24-53 | I.C. 24BIT 192KHz 6 CH DAC CS4360KZ |
| U1027 | 27-9533300-24-53 | I.C. 24BIT 96KHz STEREO ACD CS5333KZ |
| ***CRYSTAL*** | | |
| X1001 | 28-5122200-04-19 | CRYSTAL CLOCK OSCILLATOR 12.288MHz 50ppm 4PIN HALF-SIZE |
| ***REGULATORS*** | | |
| U1015,U1020 | 27-3031710-06-00 | VOLT REG 1A TO-220(T) LM317T |
| **AUDIO BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-11-00 | AUDIO ASSEMBLY |
| ***TRANSISTORS*** | | |
| Q301,Q303,Q307,Q309 | 21-0000120-70-14 | XTR SS NPN HFE 68 30MHz SPT DTC144ES |
| Q302 | 21-0100390-70-14 | XTR SS PNP HFE 30 250MHz SPT DTA 114ESA |
| Q308 | 21-0000450-70-14 | XTR SS NPN 68 250MHz SPT DTA144ESA |
| ***CAPACITORS*** | | |
| C317-C332 | 22-3220022-00-43 | CAP ELEC GS 22uF 16V 20% |
| C333-C336 | 22-3470022-00-43 | CAP ELEC SS 47uF 16V 20% |
| ***ICS*** | | |
| U301,U304 | 27-7892730-24-11 | I.C. ANALOG SW SMD TC9273F-004 |
| U302,U303 | 27-9496600-21-02 | I.C. QUAD BILATERAL SWITCH LC4966 |
| U305 | 27-7055320-18-14 | I.C. AUDIO LOW NOISE OP-AMP SMD NJM5532M |
| ***RCA JACKS*** | | |
| M301-M303 | 34-4060420-00-60 | RCA JACK 6 R-R-R/W-W-W PCB MOUNT GOLD RCA-653D-04 |
| **COMPONENT VIDEO BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-66-00 | COMPONENT VIDEO ASSEMBLY |
| ***CAPACITORS*** | | |
| C4301-C4309 | 22-3226052-00-43 | CAP ELEC SS 2.2uF 50V 20% |
| C4310-C4312,C4325 | 22-3100022-00-43 | CAP ELEC SS 10uF 16V 20% |

| Reference No. | Part No. | Description |
|---|---|---|
| C4313-C4315 | 22-3106052-00-43 | CAP ELEC SS 1uF 50V 20% |
| C4316,C4318,C4320 | 22-3101022-00-43 | CAP ELEC SS 100uF 16V 20% |
| C4317,C4319,C4321 | 22-3220022-00-43 | CAP ELEC GS 22uF 16V 20% |
| ***ICS*** | | |
| U4301 | 27-5176600-18-23 | I.C. VIDEO 3-CHANNEL 75 OHM DRIVER SSOP BA7660FS |
| U4302-U4303 | 27-0140520-18-00 | I.C. LOGIC SINGLE DUAL TRIPLE SMD SOP M74HC4052MIR |
| ***RCA JACKS*** | | |
| M431-M434 | 34-4032020-00-60 | RCA 3 G-BL-R PCB MOUNT GOLD RS-354G-18 |
| **DIGITAL BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-47-00 | DIGITAL ASSEMBLY |
| ***CAPACITORS*** | | |
| C1213-C1214,C1221 | 22-3226052-00-43 | CAP ELEC SS 2.2uF 50V 20% |
| C1222-C1223 | 22-3101022-00-43 | CAP ELEC SS 100uF 16V 20% |
| ***FIBRE OPTICAL*** | | |
| J1005-J1006 | 26-6701380-01-16 | FIBRE OPTIC RECEIVING UNIT GP1FA550RZ |
| J1008 | 26-6691386-00-16 | FIBRE OPTIC TRANSMITTER GP1FA550TZ |
| ***ICS*** | | |
| U1201-U1202 | 27-0804990-18-00 | I.C. HEX INVERTER SMD SOP M74HCU04MIR |
| U1203 | 27-0125190-18-00 | I.C. 8-CHANNEL MULTIPLEXER-SSOP 74HC251M1R |
| ***RCA JACKS*** | | |
| J1001-J1004,J1007 | 34-4010320-00-60 | RCA JACK 1 BLACK PCB MOUNT GOLD RS-146G/B |
| **KEYBOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-02-00 | KEYBOARD ASSEMBLY |
| ***DIODES*** | | |
| D202,D219,D221 | 20-1001401-20-44 | DIODE RECT 1A/400V DO41 1N4004 |
| D212,D214-D218,D222 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| D213 | 20-3227902-00-01 | DIODE ZENER BZX55 2.7V 1/2W 5% |
| D220 | 20-3251902-00-01 | DIODE ZENER BZX55 5.1V 1/2W 5% |
| D223 | 20-1001500-20-51 | DIODE RECT 1A/50V DO41 1N4001 |
| ***TRANSISTORS*** | | |
| Q201 | 21-0100100-00-46 | XTR SS PNP HFE 100 200MHz TO-92 A1015Y |
| Q202-Q207 | 21-0000010-00-46 | XTR SS NPN HEF 100 200MHz TO-92 C1815Y |

| Reference No. | Part No. | Description |
|---|---|---|
| ***CAPACITORS*** | | |
| C207-C211 | 22-3470022-00-43 | CAP ELEC SS 47uF 16V 20% |
| C212 | 22-3102012-00-28 | CAP ELEC GR 1000uF 10V 20% |
| C214 | 22-3100022-00-43 | CAP ELEC SS 10uF 16V 20% |
| C224 | 22-3222032-00-34 | CAP ELEC GS 2200uF 25V 20% |
| C255 | 22-3106052-00-43 | CAP ELEC SS 1uF 50V 20% |
| ***IR*** | | |
| D201 | 26-0941380-00-00 | IR RX 940nm 37.9KHz SHIELD ST FM-7138TE5 |
| ***ICS*** | | |
| U201(A/V-R)-U202(VFD) | 7-1086400-04-87 | I.C. MCU 8 BIT 64KROM 512 BYTE SRAM PLCC M6759-A1F(sold as a pair) |
| U203 | 27-9630600-14-62 | I.C. VFD DRIVER SMD QFP PT6306 |
| U204-U207,U211 | 27-0540940-18-00 | I.C. 8-STAGE SHIFT-AND-STORE BUS REGISTER HCF4094BM1 |
| U208 | 27-0140510-18-00 | I.C. SINGLE 8 CA ANALOG MUX/DEMUX SMD M74HC4051MIR |
| U210 | 27-2300225-00-25 | I.C. EEPROM 2K BYTE 250nS PDIL ENDURANCE AT24C16 |
| ***CRYSTALS*** | | |
| X201A-X202A | 28-5400200-06-33 | CRYSTAL 40MHz 30ppm HC-49S |
| ***SWITCHES*** | | |
| S201-S219 | 35-1001117-00-67 | SW TACT NO 1P1T 50mA/12V VER H=7mm TM114BFJ |
| ***ENCODER*** | | |
| M201 | 35-6001219-00-08 | ENCODER ROTATRY L=20mm VERTICAL W/O CLICK ECB16F-1-24PS |
| ***VFD*** | | |
| VD201 | 41-4340100-00-13 | VFD 16-BT-93GNK |
| ***RESISTORS(SMD)*** | | |
| R201-R207,R212-R213,R215,R219, R223-R227,R229,R231-R232,R253 | 44-0100220-51-00 | RES SMD 10K OHM 5% 1/16W 0603 |
| R211,R225,R234,R239 | 44-0100120-51-00 | RES SMD 1K OHM 5% 1/16W 0603 |
| R216 | 44-0390020-51-00 | RES SMD 390 OHM 5% 1/16W 0603 |
| R217-R218 | 44-0150120-51-00 | RES SMD 1.5K OHM 5% 1/16W 0603 |
| R220,R236-R237 | 44-0470120-51-00 | RES SMD 4.7K OHM 5% 1/16W 0603 |
| R221,R230,R254 | 44-0220120-51-00 | RES SMD 2.2K OHM 5% 1/16W 0603 |
| R222 | 44-0220020-51-00 | RES SMD 220 OHM 5% 1/16W 0603 |
| R233 | 44-0470220-51-00 | RES SMD 47K OHM 5% 1/16W 0603 |
| R238 | 44-0120220-51-00 | RES SMD 12K OHM 5% 1/16W 0603 |
| R241-R242 | 44-0100020-51-00 | RES SMD 100 OHM 5% 1/16W 0603 |
| R251-R252 | 44-0100520-51-00 | RES SMD 10M OHM 5% 1/16W 0603 |
| ***CAPACITORS(SMD)*** | | |
| C201-C202,C213,C215-C221 | 45-0104056-57-57 | CAP CER SMD 0.1uF 50V 20% Y5V 0603 |

| Reference No. | Part No. | Description |
|---|---|---|
| C222,C241-C242 | 45-0102055-55-57 | CAP CER SMD 1nF 50V 10% X7R 0603 |
| C223 | 45-0123055-55-57 | CAP CER SMD 12nF 50V 10% X7R 0603 |
| C251-C254 | 45-0330055-55-57 | CAP CER SMD 33pF 50V 10% X7R 0603 |
| **LED BAORD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-32-00 | LED ASSEMBLY |
| ***LEDs*** | | |
| D211 | 26-0012587-01-10 | LED RED-GREEN CIRCULAR 5X807mm L-59SRKSGW-CA C ANODE |
| **MAIN BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-00-00 | MAIN ASSEMBLY |
| ***DIODES*** | | |
| D701-D712 | 20-1001401-20-44 | DIODE RECT 1A/400V DO41 1N4004 |
| D711 | 20-3227002-00-47 | DIODE ZENER BZX55 27V 1/2W 5% DO35 BZX55-C27V |
| D714 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| D715 | 20-5004700-50-02 | DIODE BRI 4A/70V RS402L |
| D716-D718 | 20-3951943-50-01 | DIODE ZENER ZY5.1 2W 10% DO-204AM ZY5.1 |
| ***TRANSISTOR*** | | |
| Q701 | 21-0000140-00-11 | XTR SS NPN HFE 120 100MHz TO-92 SS8050C |
| ***CAPACITORS*** | | |
| C701,C705-C706,C716,C725 | 22-3102032-00-28 | CAP ELEC GR 1000uF 25V 20% |
| C702,C719,C723 | 22-3101022-00-43 | CAP ELEC SS 100uF 16V 20% |
| C704 | 22-3332042-00-28 | CAP ELEC GR 3300uF 35V 20% |
| C707 | 22-3222042-00-34 | CAP ELEC GS 2200uF 35V 20% |
| C710 | 22-3470052-00-43 | CAP ELEC SS 47uF 50V 20% |
| C711-C713 | 22-3102052-00-28 | CAP ELEC GR 1000uF 50V 20% |
| C721,C724 | 22-3222032-00-34 | CAP ELEC GS 2200uF 25V 20% |
| ***REGULATORS*** | | |
| U701,U704-U706 | 27-3000501-17-14 | VOLT REG 5V 1A TO-220 NJM7805FA |
| U702,U707 | 27-3001201-17-14 | VOLT REG 12V 1A TO-220 NJM7812 |
| U703 | 27-3101201-13-14 | VOLT REG TO-220F NJM7912 |
| **MULTI-CHANNEL BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-64-00 | MULTI-CHANNEL ASSEMBLY |
| ***DIODE*** | | |
| D601 | 20-0000000-00-1 | DIODE SW 4NS DO35 1N4148 |

| Reference No. | Part No. | Description |
|---|---|---|
| ***TRANSISTORS*** | | |
| Q601-Q602 | 21-0000360-00-00 | XTR SS NPN HFE200-700 30MHz 2SC2878A |
| Q603 | 21-0100390-70-14 | XTR SS PNP HFE 30 250MHz SPT DTA 114ESA |
| Q604 | 21-0000400-70-14 | XTR SS NPN HFE30 250MHz SPT DTC114ESA |
| Q626,Q628 | 21-0000120-70-14 | XTR SS NPN HFE 68 30MHz SPT DTC144ES |
| Q627 | 21-0000450-70-14 | XTR SS NPN 68 250MHz SPT DTA144ESA |
| ***CAPACITORS*** | | |
| C607,C611-C612,C619-C623,C681-C683 | 22-3220022-00-43 | CAP ELEC GS 22uF 16V 20% |
| C626 | 22-3221022-00-43 | CAP ELEC SS 220uF 16V 20% |
| C677-C678,C689-C690 | 22-3470022-00-43 | CAP ELEC SS 47uF 16V 20% |
| ***ICS*** | | |
| U601 | 27-7891640-21-11 | I.C. HIGH VOLTAGE ANALOG SWITCH ARRAY TC9164AN |
| U604 | 27-9496600-21-02 | I.C. QUAD BILATERAL SWITCH LC4966 |
| U605-U608 | 27-7055320-18-14 | I.C. AUDIO LOW NOISE OP-AMP SMD NJM5532M |
| ***RCA JACKS*** | | |
| M601,M603 | 34-4060420-00-60 | RCA JACK 6 R-R-R/W-W-W PCB MOUNT GOLD RCA-653D-04 |
| M602 | 34-4020320-00-60 | RCA JACK 2 B/B PCB MOUNT GOLD RS-253G-02 |
| ***RESISTORS(SMD)*** | | |
| J601-J603 | 44-0000027-11-00 | RES SMD 0 OHM 5% 1/10W 0805 TAPE |
| **PRE-OUT BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-63-00 | PRE-OUT ASSEMBLY |
| ***DIODES*** | | |
| D602,D604 | 20-3275902-00-01 | DIODE ZENER BZX55 7.5V 1/2W 5% |
| D605-D614 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| ***TRANSISTORS*** | | |
| Q605 | 21-0000140-00-11 | XTR SS NPN HFE 120 100MHz TO-92 SS8050C |
| Q607 | 21-0100131-00-11 | XTR SS PNP HFE 170 1.5A TO-92 SS8550C |
| Q608-Q615,Q617,Q629-Q630,Q632-Q633 | 21-0000350-70-00 | XTR SS NPN HFE200-700 30MHz SPT RN1241A |
| Q616,Q618,Q620,Q622,Q624,Q631 | 21-0100390-70-14 | XTR SS PNP HFE 30 250MHz SPT DTA 114ESA |
| ***CAPACITORS*** | | |
| C613-C618,C624-C625,C635-C636, C710-C711,C751-C752 | 22-3336052-00-43 | CAP ELEC SS 3.3uF 50V 20% |

| Reference No. | Part No. | Description |
|---|---|---|
| C627-C628,C633-C634 | 22-3101022-00-43 | CAP ELEC SS 100uF 16V 20% |
| C637,C642,C647,C652,C657,C662, C667,C672,C700,C705 | 22-3100022-00-43 | CAP ELEC SS 10uF 16V 20% |
| C640,C645,C650,C655,C660,C665, C670,C675,C703,C708 | 22-3220022-00-43 | CAP ELEC GS 22uF 16V 20% |
| C679-C680,C691-C692 | 22-3470022-00-43 | CAP ELEC SS 47uF 16V 20% |
| C684-C688,C699 | 22-3331022-00-28 | CAP ELEC GR 330uF 16V 20% |
| C693-C694,C753-C754 | 22-4182203-10-10 | CAP MYLAR KT-G 8.2nF 100V 10% |
| C695-C696,C747-C748 | 22-4115303-10-28 | CAP MYLAR MCC-R 15nF 100V 10% |
| C697-C698,C749-C750 | 22-4233402-00-31 | CAP MPF 0.33uF 5% |
| ***RESISTORS*** | | |
| R635,R642,R647,R654,R659,R666, R678,R694,R701 | 23-1150102-00-00 | RES MF 1.5K OHM 1% 1/8W |
| R636,R643,R648,R655,R660,R667, R672,R679,R695,R702 | 23-1330002-00-00 | RES MF 330 OHM 1% 1/6W |
| R671 | 23-1220102-00-00 | RES MF 2.2K OHM 1% 1/6W |
| ***INDUCTORS*** | | |
| L601 | 24-0101108-00-28 | IND CHOKE 100uH 10% AXIAL EC24-101K |
| L603-L604 | 24-0100127-00-28 | IND CHOKE 10uH 10% EC36 AXIAL EC36-100K |
| ***ICS*** | | |
| U602-U603 | 27-7262440-10-01 | I.C. AUDIO 6CH VOL/TONE CONTROL M62446AFP |
| U609-U613 | 27-7055320-18-14 | I.C. AUDIO LOW NOISE OP-AMP SMD NJM5532M |
| ***RCA JACKS*** | | |
| M607,M609 | 34-4040520-00-60 | RCA JACK 4 R-W/R-W PCB MOUNT GOLD RS-453G-08 |
| M608,M612 | 34-4020320-00-60 | RCA JACK 2 B/B PCB MOUNT GOLD RS-253G-02 |
| M610 | 34-4020220-00-60 | RCA 2 W/W PCB MOUNT GOLD RS-253G W/SHIELD |
| M611 | 34-4010120-00-60 | RCA 1 R PCB MOUNT GOLD RS-146G/R W/ SHIELD |
| **POWER SUPPLY BOARD** | | |
| ***PCB ASSEMBLY*AH*** | 80-0907620-01-00 | POWER SUPPLY ASSEMBLY |
| ***PCB ASSEMBLY*C*** | 80-0907620-01-01 | POWER SUPPLY ASSEMBLY |
| ***DIODES*** | | |
| D751 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| D752-D755 | 20-1001401-20-44 | DIODE RECT 1A/400V DO41 1N4004 |
| ***TRANSISTOR*** | | |
| Q751 | 21-0000010-00-46 | XTR SS NPN HEF 100 200MHz TO-92 C1815Y |
| ***CAPACITORS*** | | |
| C752 | 22-3470032-00-00 | CAP ELEC GS 47uF 25V 20% |

| Reference No. | | Part No. | Description |
|---|---|---|---|
| C763 | ⚠ | 22-1103470-35-45 | CAP CER ECKDRS 10nF 400VAC +80/-20% |
| ***RESISTORS*** | | | |
| R751 | ⚠ | 23-5228330-00-00 | RES FUSIBLE 0.22 OHM 10% 1/2W AXIAL |
| R754*AH | ⚠ | 23-8395232-00-25 | CONDUCTIVE PATH RESISTOR 3.9M OHM 1/2W 5% 250V |
| ***STANDBY TRANSFORMER*** | | | |
| T751*AH | ⚠ | 25-0040057-01-18 | XFORMER PW EI-35 120V UL/CUL T06206A WHP35-14A5F |
| T751*C | ⚠ | 25-0040020-31-18 | XFORMER PW EI-35 100V/220V T05382A RV.04 |
| ***RELAY*** | | | |
| M751*AH | ⚠ | 32-1212100-01-97 | RELAY 12VDC/10A SPST SDT-S-112DMR TV-8 UL/CSA/TUV/SEMKO |
| M751*C | ⚠ | 32-3112100-02-97 | RELAY 12VDC/10A SPST PCB OMI-SS-112LM UL/CSA/VDE/SEMKO |
| ***FUSES & FUSE HOLDERS*** | | | |
| F751*AH | ⚠ | 33-0191001-00-88 | FUSE TIME-LAG 10A 250VAC 5X20mm VDE/UL/CSA |
| F751*C | ⚠ | 33-0181006-00-88 | FUSE TIME-LAG 6.3A 250VAC 5X20mm VDE/UL/CSA 5T |
| F752*AH | ⚠ | 33-0111006-00-88 | FUSE 1.6A 250V TIME LAG LBC 5x20mm UL/CSA/VDE/SEMKO |
| F752*C | ⚠ | 33-0151006-00-88 | FUSE 800mA 250V TIME LAG LBC 5x20mm 5T UL/CSA/VDE/SEMKO |
| FH751-FH752 | ⚠ | 33-1000000-00-88 | FUSE CLIP 0.05mm FC-53-11 |
| **POWER SWITCH BAORD** | | | |
| ***PCB ASSEMBLY*** | | 80-0907620-48-00 | POWER SWITCH ASSEMBLY |
| ***CAPACITORS*** | | | |
| C764 | ⚠ | 22-1103470-35-45 | CAP CER ECKDRS 10nF 400VAC +80/-20% |
| ***POWER SWITCH*** | | | |
| S751 | ⚠ | 35-0101109-00-67 | SW POWER TV-8 10A 250VAC PS3-22SPA-P7AZ |
| **RS232 BOARD** | | | |
| ***PCB ASSEMBLY*** | | 80-0907620-38-0 | S232 ASSEMBLY |
| ***CAPACITORS*** | | | |
| C901-C904 | | 22-3106052-00-43 | CAP ELEC SS 1uF 50V 20% |
| C905 | | 22-3100022-00-43 | CAP ELEC SS 10uF 16V 20% |
| ***IC*** | | | |
| U901 | | 27-0723200-18-43 | I.C. DUAL RS-232 TRANSMITTER SMD SOIC DS232AR |

| Reference No. | Part No. | Description |
|---|---|---|
| **SECONDARY BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-27-00 | SECONDARY ASSEMBLY |
| ***CA[ACITORS*** | | |
| C801-C804 | 22-3123072-00-41 | CAP ELEC LP 12000uF 80V 20% |
| ***DIODES*** | | |
| D801-D802 | 20-5125401-50-02 | BRIDGE RECTIFIER 25A 400V MP254W BR-25W |
| **ISC BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-74-00 | ISC ASSEMBLY |
| ***DIODES*** | | |
| D801-D802 | 20-5125401-50-02 | BRIDGE RECTIFIER 25A 400V MP254W BR-25W |
| D810,D824 | 20-5010401-50-47 | DIODE BRI 10A/400V KBK10G |
| D811-D812,D825-D826 | 20-1912601-90-45 | DIODE RECT 12A/600V TO-220 TYN612 |
| D813,D823,D827-D828 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| D821-D822 | 20-3212002-00-36 | DIODE ZENER BZX55 12V 1/2W 5% |
| **TRANSISTORS** | | |
| Q811,Q813,Q781-Q782 | 21-0100410-00-12 | XTR SS PNP HFE 280-560 110MHz 2SA1016KG-AA |
| Q812,Q815,Q817-Q818,Q831,Q833 | 21-0000010-00-46 | XTR SS NPN HEF 100 200MHz TO-92 C1815Y |
| Q830,Q832,Q814,Q816 | 21-0100100-00-46 | XTR SS PNP HFE 100 200MHz TO-92 A1015Y |
| ***CAPACITORS*** | | |
| C786-C789,C816-C820 | 22-4210402-00-31 | CAP MPF 0.1uF 63V 5% DMF 5 SERIES |
| C801-C804 | 22-3123072-00-41 | CAP ELEC LP 12000uF 80V 20% |
| C811-C813,C815,C829-C830,C832-C833 | 22-3100022-00-43 | CAP ELEC SS 10uF 16V 20% |
| ***RESISTORS*** | | |
| R790,R793,R813,R817 | 23-4228280-08-20 | RES RN 0.22 OHM 5% 5W SIL 3 PIN |
| R826,R873 | 44-0100120-51-00 | RES SMD 1K OHM 5% 1/16W |
| R827,R835,R874,R882 | 44-0100220-51-00 | RES SMD 10K OHM 5% 1/16W |
| R828,R875 | 44-0470120-51-00 | RES SMD 4.7K OHM 5% 1/16W |
| R833,R880 | 44-0680320-51-00 | RES SMD 680K OHM 5% 1/16W |
| R837-R839 ⚠ | 23-5228330-00-00 | RES FUSIBLE 0.22 OHM 10% 1/2W |
| R841-R840 | 23-2228232-00-00 | RES MO 0.22 OHM 5% 1/2W |
| R877,R829,R876,R830 | 44-0100320-51-00 | RES SMD 100K OHM 5% 1/16W |
| R879,R832,R831,R878 | 44-0220120-51-00 | RES SMD 2.2K OHM 5% 1/16W |
| R834,R881 | 30-0503106-02-22 | VR SEMI-FIXED 50K OHM 30% B 6mm HOR |
| ***IC*** | | |
| U801 | 27-7055320-18-14 | I.C. AUDIO LOW NOISE OP-AMP SMD NJM5532M |

| Reference No. | Part No. | Description |
|---|---|---|
| **SPEAKER BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-76-00 | SPEAKER ASSEMBLY |
| ***SPEAKER TERMINALS*** | | |
| M5101,M8101 | 34-3000021-00-80 | SPK TER 6P BINDING R/B W/O PLUG KF-J5000-06 |
| M5102 | 34-3000022-00-80 | SPK TER 4P BINDING R/B W/O PLUG KF-J5000-04 |
| **S-VIDEO BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-26-00 | S-VIDEO ASSEMBLY |
| ***DIODES*** | | |
| D4101-D4107 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| ***TRANSISTORS*** | | |
| Q4101,Q4103,Q4122,Q4131 | 21-0000120-70-14 | XTR SS NPN HFE 68 30MHz SPT DTC144ES |
| Q4102 | 21-0000450-70-14 | XTR SS NPN 68 250MHz SPT DTA144ESA |
| Q4107-Q4109,Q4110-Q4112, Q4116-Q4119 | 21-0100370-70-14 | XTR SS PNP HFE 270-560 140MHz 2SA933AS |
| Q4120,Q4123 | 21-0000380-70-14 | XTR SS NPN HFE20 250MHz DTC-123ESA |
| Q4121,Q4124-Q4125,Q4130,Q4128, Q4113-Q4114,Q4133 | 21-0000360-00-00 | XTR SS NPN HFE200-700 30MHz 2SC2878A |
| Q4126-Q4127,Q4115 | 21-0000390-70-14 | XTR SS NPN HFE270-560 180MHz 2SC1740S |
| Q4132 | 21-0000010-00-46 | XTR SS NPN HEF 100 200MHz TO-92 C1815Y |
| ***CAPACITORS*** | | |
| C4101-C4107,C4109-C4111,C4113-C4115,C4117-C4120,C4153,C4157 | 22-3226052-00-43 | CAP ELEC SS 2.2uF 50V 20% |
| C4108,C4116,C4112,C4156 | 22-3471012-00-28 | CAP ELEC GR 470uF 10V 20% |
| C4123-C4124 | 22-3221012-00-43 | CAP ELEC SS 220uF 10V 20% |
| C4133,C4141 | 22-3106052-00-43 | CAP ELEC SS 1uF 50V 20% |
| C4134,C4145,C4149 | 22-3101012-00-43 | CAP ELEC SS 100uF 10V 20% |
| C4137,C4144 | 22-3477052-00-43 | CAP ELEC SS 0.47uF 50 20% |
| C4138 | 22-7200210-00-09 | CAP TRIMMER 20pF 20% |
| C4146,C4136 | 22-4247402-00-31 | CAP MPF 0.47uF 63V 5% DMF 5 SERIES |
| C4150,C4158 | 22-3470022-00-43 | CAP ELEC SS 47uF 16V 20% |
| C4151 | 22-3100022-00-43 | CAP ELEC SS 10uF 16V 20% |
| ***INDUCTORS*** | | |
| L4102 | 24-0220107-00-28 | IND CHOKE 22uH 10% AXIAL EC24-220K |
| L4101 | 24-0569107-00-28 | IND CHOKE 5.6uH 10% AXIAL EC24-5R6K |
| ***ICS*** | | |
| U4101 | 27-5574763-21-02 | I.C. OSD DIP LC74763-9012 |

| Reference No. | Part No. | Description |
|---|---|---|
| U4102,U4103 | 27-5076250-21-23 | I.C. AV SWITCH DIP BA7625 |
| U4104 | 27-9496600-21-02 | I.C. QUAD BILATERAL SWITCH LC4966 |
| ***CRYSTALS*** | | |
| X4101 | 28-5143200-06-19 | CRYSTAL 14.318MHz 30ppm HC-49S |
| X4102 | 28-5177200-06-19 | CRYSTAL 17.73447MHz 30ppm HC-49S |
| ***DIN JACKS*** | | |
| M411-M418 | 34-4110300-00-60 | DIN JACK 1 BLACK PCB MOUNT MD-113 |
| ***SLIDE SWITCH*** | | |
| S4101 | 35-4102209-00-67 | SW SLIDE 2P2T RIGHT L=9 JSK022N09-G09 |
| **TRIGGER BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-68-00 | TRIGGER ASSEMBLY |
| ***DIODES*** | | |
| D351-D353 | 20-3251902-00-01 | DIODE ZENER BZX55 5.1V 1/2W 5% |
| D354-D356 | 20-0000000-00-13 | DIODE SW 4NS DO35 1N4148 |
| ***TRANSISTORS*** | | |
| Q351,Q352 | 21-0000380-70-14 | XTR SS NPN HFE20 250MHz DTC-123ESA |
| ***REGULATOR*** | | |
| U352 | 27-3001201-17-14 | VOLT REG 12V 1A TO-220 NJM7812 |
| ***JACKS*** | | |
| M351-M357 | 34-4310300-00-60 | PHONE JACK 3.5mm RIGHT ST-030-07 |
| ***SWITCH*** | | |
| S351 | 35-4102209-00-67 | SW SLIDE 2P2T RIGHT L=9 JSK022N09-G09 |
| **VIDEO-6 BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-45-00 | VIDEO ASSEMBLY |
| ***CAPACITORS*** | | |
| C4401-4403 | 22-3226052-00-43 | CAP ELEC SS 2.2uF 50V 20% |
| ***JACKS*** | | |
| M4401 | 34-4010000-01-60 | RCA JACK 1 YELLOW PCB MOUNT GOLD RS-105G/Y |
| M4402 | 34-4110300-00-60 | DIN JACK 1 BLACK PCB MOUNT MD-113 |
| M4403 | 34-4010200-01-60 | RCA 1 WHITE PCB MOUNT GOLD RS-105AG/W |
| M4404 | 34-4010100-01-60 | RCA JACK 1 RED PCB MOUT GOLD RS-105AG/R |

| Reference No. | Part No. | Description |
|---|---|---|
| J4401 | 34-4510302-00-60 | PHONE JACK D6.3 1 PCB MOUNT ST-016S-01 |
| **COMPOSITE VIDEO BOARD** | | |
| ***PCB ASSEMBLY*** | 80-0907620-42-00 | COMPOSITE VIDEO ASSEMBLY |
| ***TRANSISTORS*** | | |
| Q4201-Q4203,Q4207-Q4208 | 21-0100370-70-14 | XTR SS PNP HFE 270-560 140MHz 2SA933AS |
| Q4204,Q4206 | 21-0000120-70-14 | XTR SS NPN HFE 68 30MHz SPT DTC144ES |
| Q4205 | 21-0000450-70-14 | XTR SS NPN 68 250MHz SPT DTA144ESA |
| ***CAPACITORS*** | | |
| C4201-C4203,C4205,C4207,C4209-C4210,C4216-C4217 | 22-3226052-00-43 | CAP ELEC SS 2.2uF 50V 20% |
| C4204,C4206,C4208,C4211,C4218 | 22-3471012-00-28 | CAP ELEC GR 470uF 10V 20% |
| ***ICS*** | | |
| U4201 | 27-9496600-21-02 | I.C. QUAD BILATERAL SWITCH LC4966 |
| U4202-U4203 | 27-5076250-21-23 | I.C. AV SWITCH DIP BA7625 |
| ***RCA JACKS*** | | |
| M421-M422 RS-454-03 | 34-4040020-00-60 | RCA JACK 4 Y-Y/Y-Y PCB MOUNT GOLD |
| M423 | 34-4010000-00-60 | RCA 1 Y PCB MOUNT GOLD RS-146G/Y |
| ***RESISTORS (SMD)*** | | |
| J4201-J4202 | 44-0000027-11-00 | RES SMD 0 OHM 5% 1/10W 0805 TAPE |

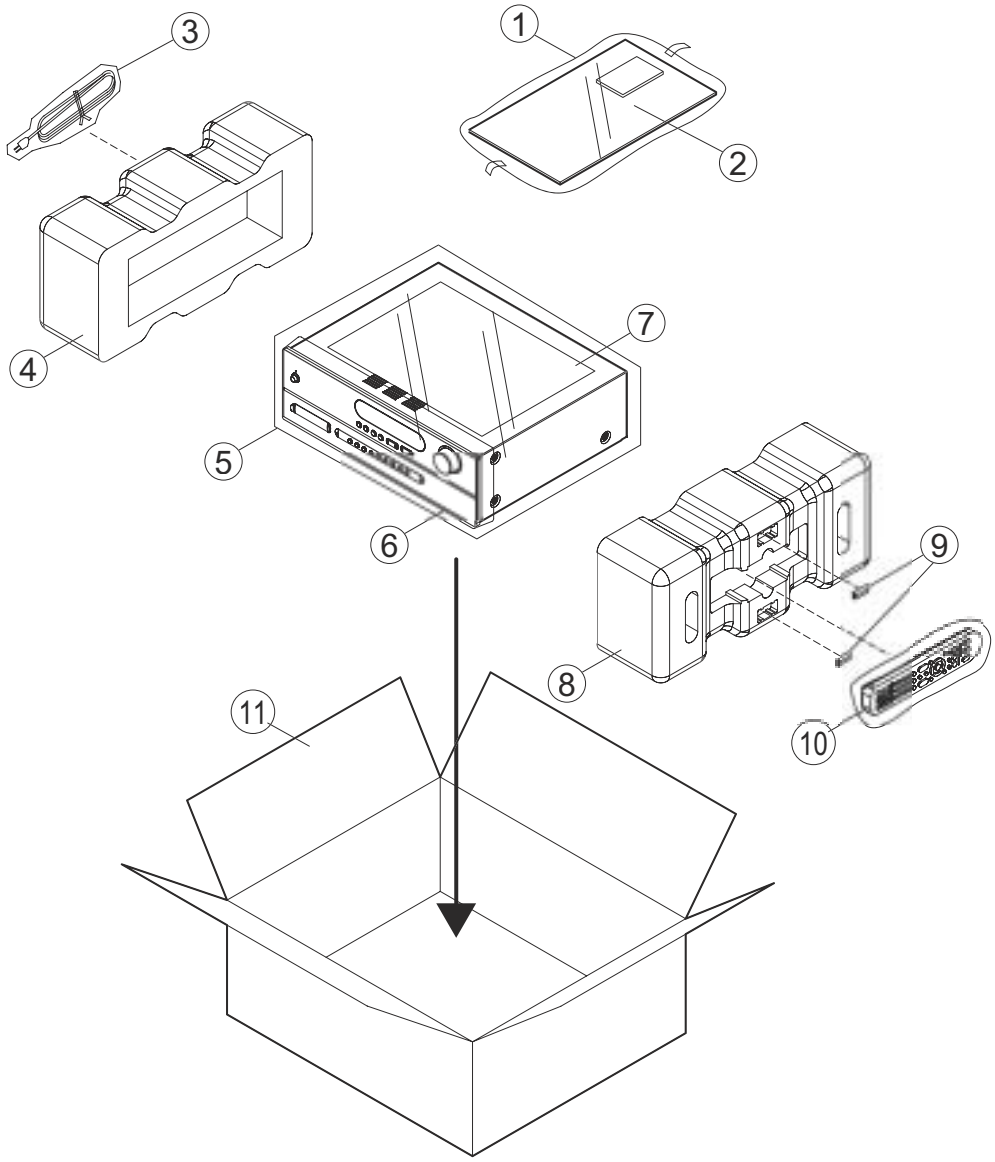
**NOTE: THE COMPONENTS IDENTIFIED BY ⚠ MARK ARE CRITICAL FOR RISK OF FIRE AND ELECTRICAL SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.**

<*AH > : USA, CANADIAN MODEL ONLY.

<*C > : EUROPEAN MODEL ONLY.

RESISTORS: MO-METAL OXIDE, RN-CERAMIC CASE, MF-METAL FILM.

# PACKING DIAGRAM




| Item | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 64-0200001-01-00 | POLYBAG MANUAL | 1 |
| 2 | 31-6407520-00-98 | FM WIRE ANTENNA | 1 |
| | 31-6472801-00-28 | AM LOOP ANTENNA W/STAND | 1 |
| | 34-0081004-00-67 | 300 TO 75 OHM ADAPTER | 1 |
| | 37-0240300-00-81 | LITHIUM BUTTON CELL CR2025 | 1 |
| | 61-0762004-40-99 | OWNER'S MANUAL T762 GB/F/D/NL | 1 |
| | 61-0762004-41-99 | OWNER'S MANUAL T762 E/I/P/S | 1 |
| | 83-0762000-00-04 | REMOTE CONTROLLER NAD ZR-2 | 1 |
| 3 ⚠ | 36-2871010-07-88 | POWER CORD 110V 3PINS 15A/125V UL/CSA | 1 |
| | 36-2983110-07-97 | POWER CORD CE 3 PINS 10A/16A 250V | 1 |
| 4 ⚠ | 63-0762001-00-01 | POLYFOAM ENDCAP LEFT | 1 |
| 5 | 64-0762001-00-00 | POLYBAG MAIN UNIT | 1 |
| 6 | 64-0762000-00-00 | EPE PROTECTIVE COVER | 1 |
| 7 | 65-0752070-00-99 | A3 WHITE PAPER | 1 |
| 8 | 63-0762002-00-01 | POLYFOAM ENDCAP RIGHT | 1 |
| 9 | 37-0020200-00-79 | BATTERY AAA 1.5V | 4 |
| 10 | 83-0752000-00-04 | REMOTE CONTROLLER NAD HTR-2 | 1 |
| 11 | 67-0762000-11-99 | MASTER CARTON BOX | 1 |

# VERSION HISTORY

| SERIAL NUMBER | SOFTWARE VER. | PCB ASSEMBLY VERSION |
|---|---|---|
| R2ZT76200001-R2ZT76200003 | V1.12 | ALL ARE A6 PCB ASSEMBLY |
| R2ZT76200004-R2ZT76200360 | V1.13 | ALL ARE A6 PCB ASSEMBLY |
| R2ZT76200361-R2ZT76200900 | V1.18 | ALL ARE A6 PCB ASSEMBLY |

# T 762i VERSION PART NUMBERS

| SERIAL NUMBER | SOFTWARE VER. | PCB ASSEMBLY VERSION |
|---|---|---|
| R35T762i4101 - R35T762i4540 | V1.20 | ALL ARE A6 PCB ASSEMBLY |
| R37T762i4541 - R37T762i4600 | V1.22 | ALL ARE A6 PCB ASSEMBLY |
| | | ALL ARE A6 PCB ASSEMBLY |

# SERVICE MANUAL

## T 762

### AV SURROUND SOUND RECEIVER

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NAD ELECTRONICS LTD
LONDON

NAD®

# T 762

Surround Sound Receiver

# SERVICE MANUAL

# ADDENDUM


VERSION HISTORY ..... 2

PCB LAYOUT - DSP BOARD (ISSUE 8 - 10) ..... 3 - 5

PCB LAYOUT - KEYBOARD (ISSUE 8 - 10) ..... 6 - 8

SCHEMATIC DIAGRAM - DSP BOARD (ISSUE 8 - 10) ..... 9 - 11

SCHEMATIC DIAGRAM - KEYBOARD (ISSUE 8 - 10) ..... 12 - 14




ISSUE DATE: APRIL 2005

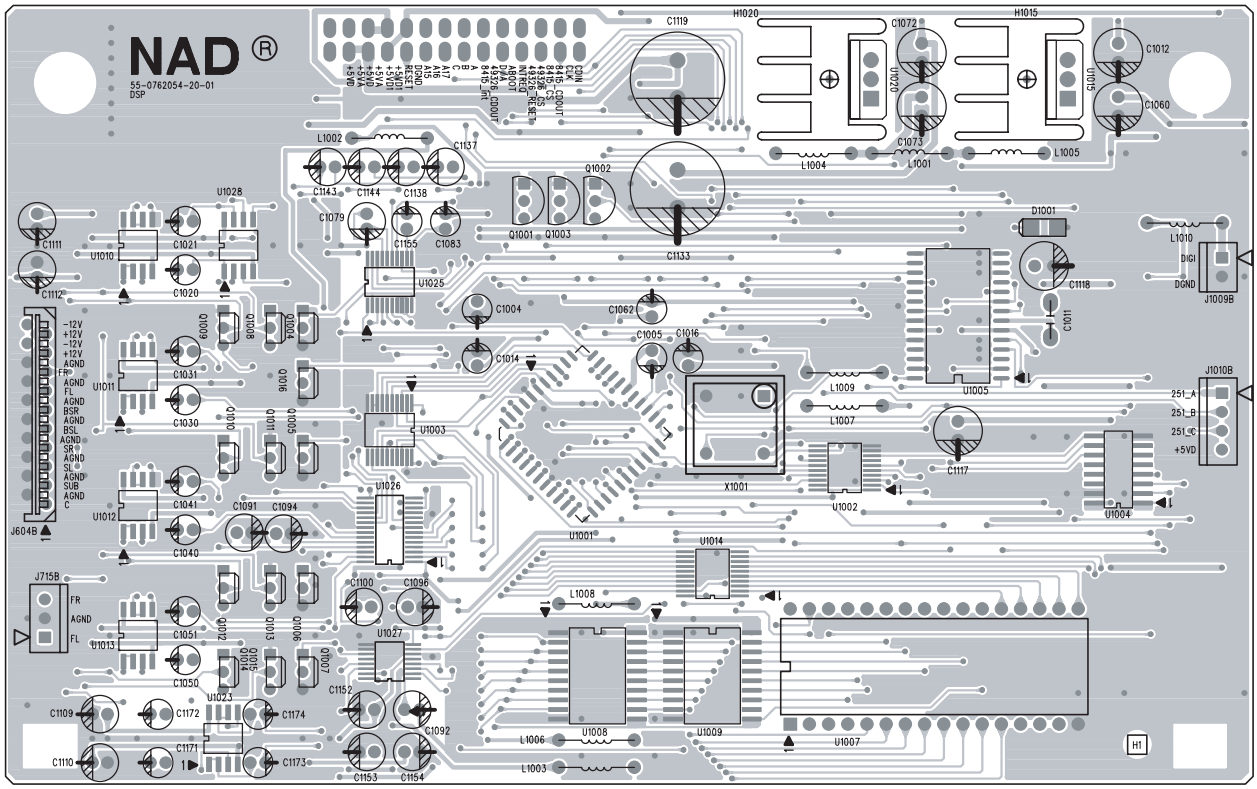
# VERSION HISTORY

| ISSUE | DESC. / PART NO. | CAUSE(S) | SERIAL NUMBER |
|---|---|---|---|
| **ISSUE 6** | DSP :<br>55-0762054-20-00<br>(CNC BOARD) | • Change FFC connector to pin connector | R2ZT76200001-R2ZT76200400 |
| | KEYBOARD :<br>55-0762003-20-00<br>(CNC BOARD) | • Change FFC connector to pin connector | |
| **ISSUE 7** | DSP :<br>55-0762054-20-00<br>(TOOLED PCB) | • Move A/D Component<br>• Add Coil in Digital Input<br>• Del Wire form Crystal to Chassis | R2ZT76200401-R2ZT76201400 |
| | KEYBOARD :<br>55-0762003-20-00<br>(TOOLED PCB) | • Add Supply E.Cap<br>• Add Transistor for IR_OUT | |
| **ISSUE 8** | DSP :<br>55-0762054-20-01<br>(TOOLED PCB) | • Add test pin | R31T76201401-R31T76202198 |
| | KEYBOARD :<br>55-0762003-20-01<br>(TOOLED PCB) | • Add missing connection of R229.2 to C223.1<br>• Add test pin | |
| **ISSUE 9** | DSP :<br>55-0762054-20-02<br>(TOOLED PCB) | • Add C.Cap C1181 for safety issue | R33T76202201-R33T76204100 |
| | KEYBOARD :<br>55-0762003-20-02<br>(TOOLED PCB) | • Swap connection of TRIG_OUT_2 / TRIG_OUT_3 | |
| **ISSUE 10** | DSP :<br>55-0762054-20-03<br>(TOOLED PCB) | • Add E.Cap C1182 for eliminate Pop noise | R35T76214101-R35T76214600 |
| | KEYBOARD :<br>55-0762003-20-03<br>(TOOLED PCB) | • Delete Component of IR_OUT<br>• C223 Change to Axial Type | |

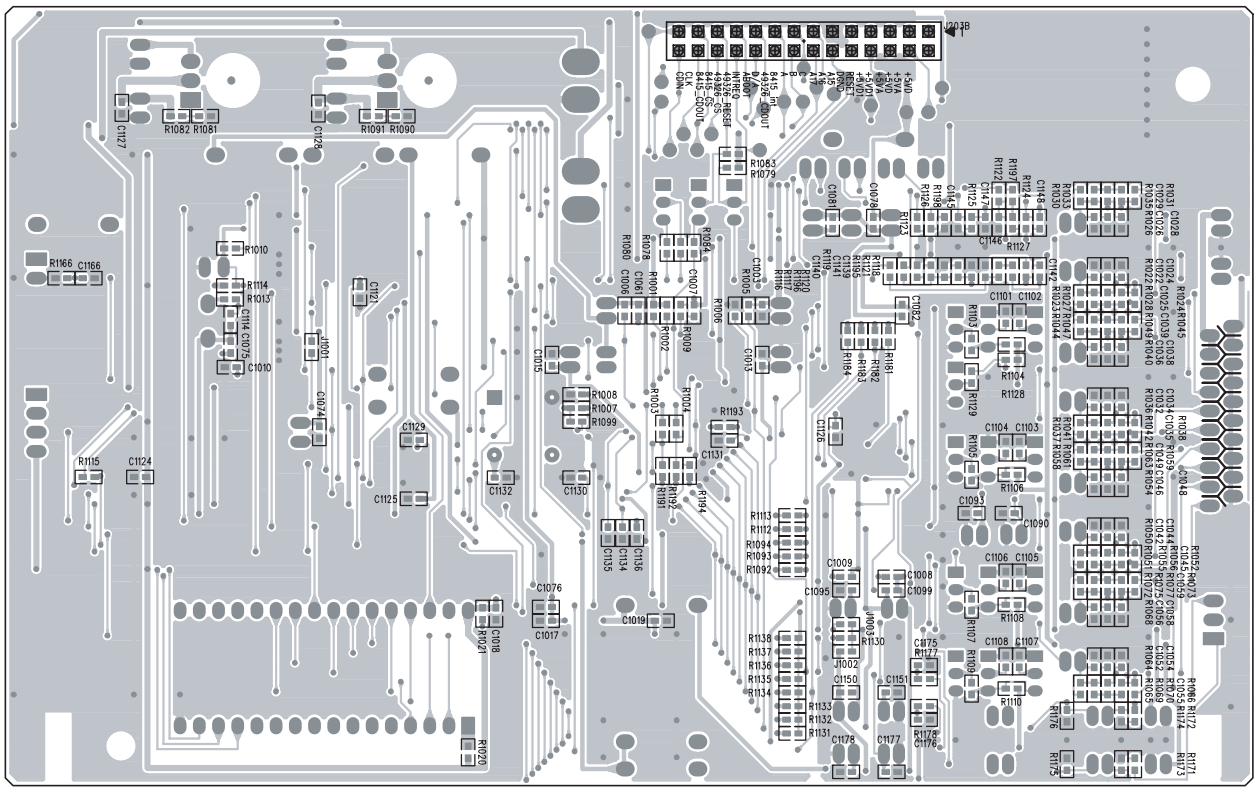
**NOTE:**
The PCBs are compatible use from Issue 7 to 10. (Issue 6 is not compatible use to other issue)

# PCB LAYOUT
## DSP BOARD (ISSUE 8)

### COMPONENT SIDE

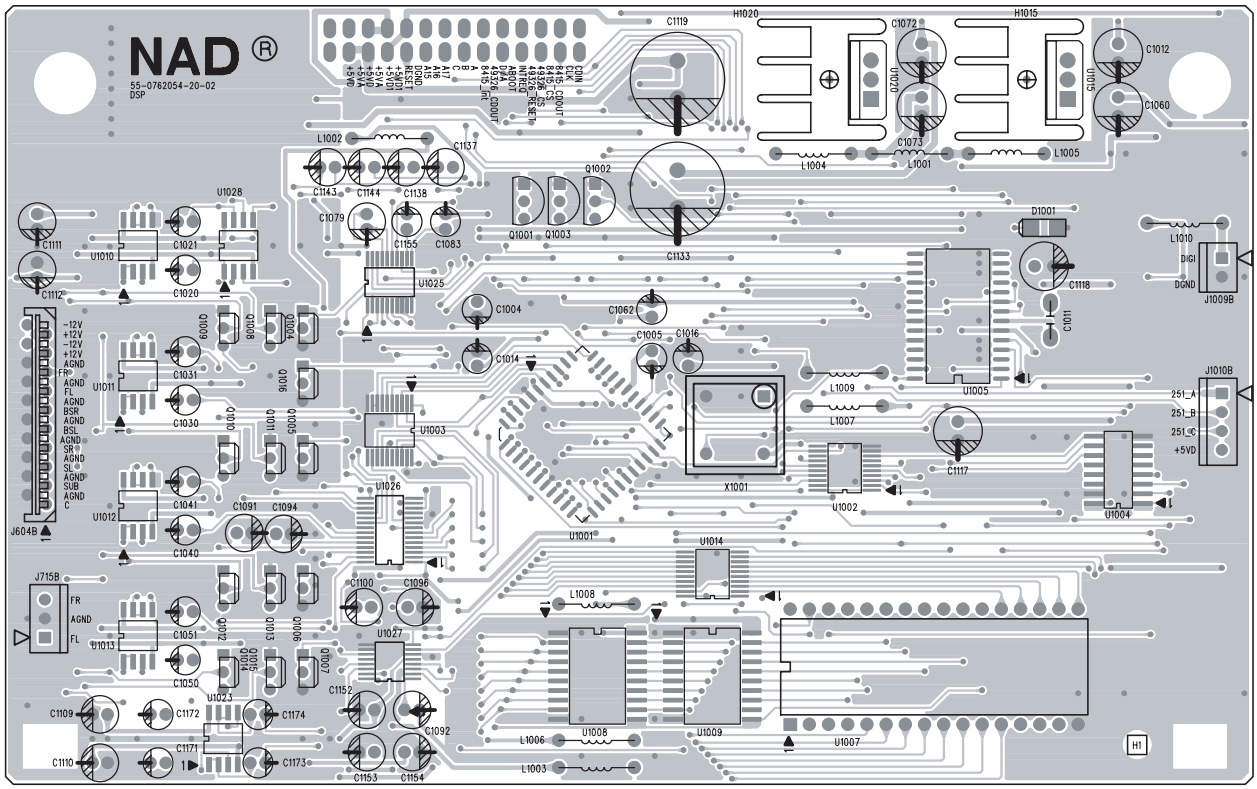



### COPPER SIDE

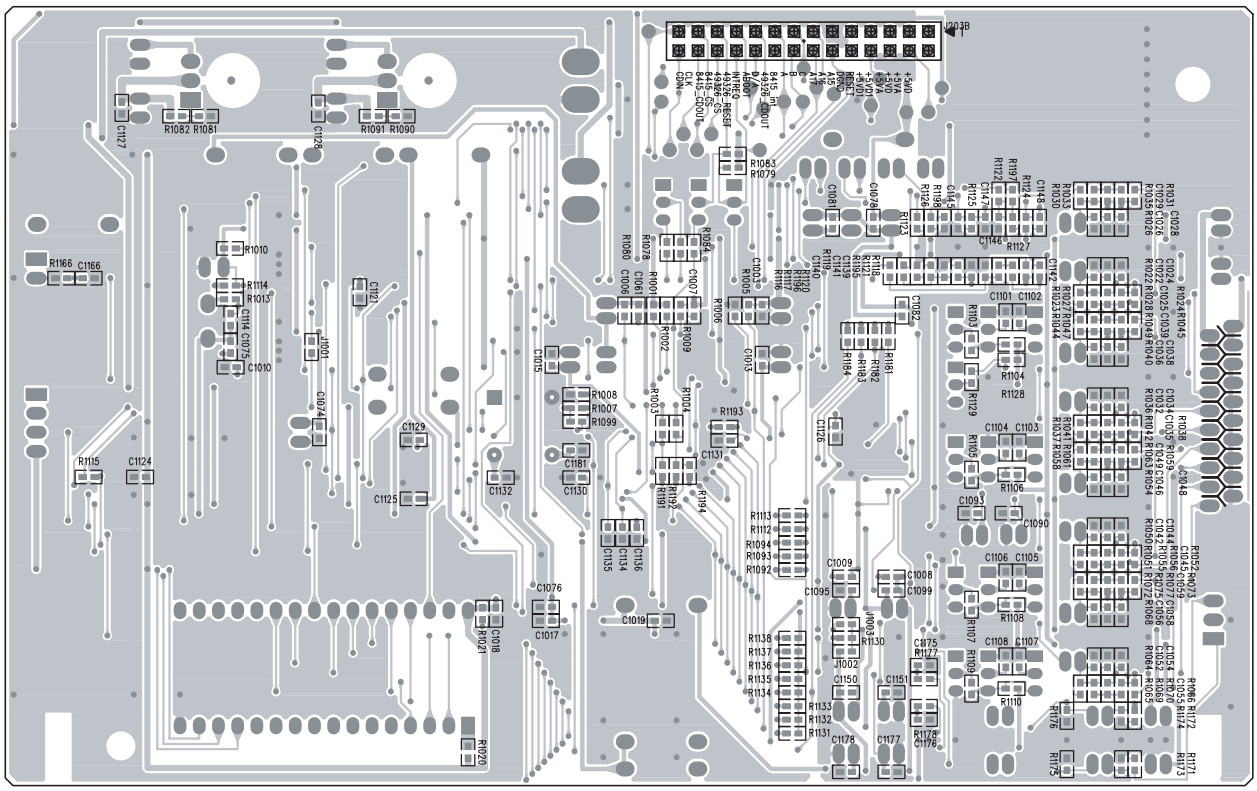


# PCB LAYOUT
## DSP BOARD (ISSUE 9)

### COMPONENT SIDE

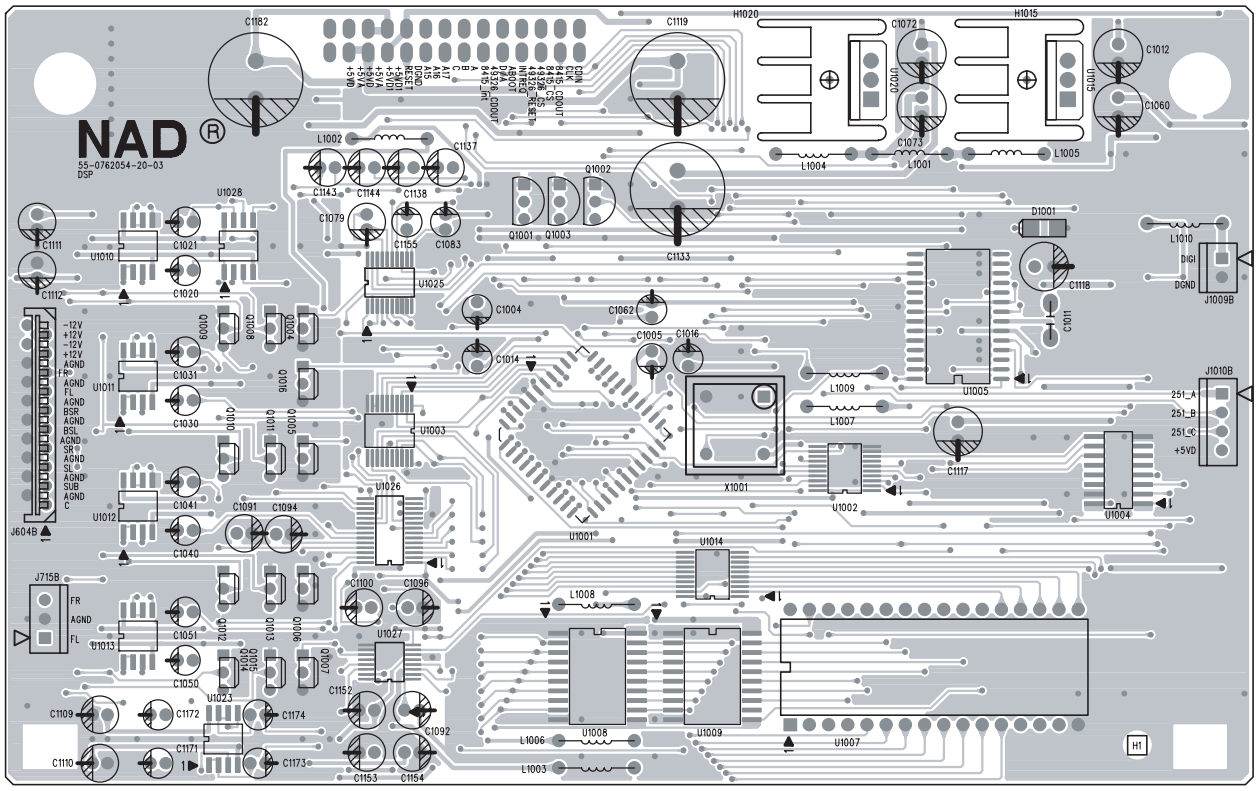



### COPPER SIDE

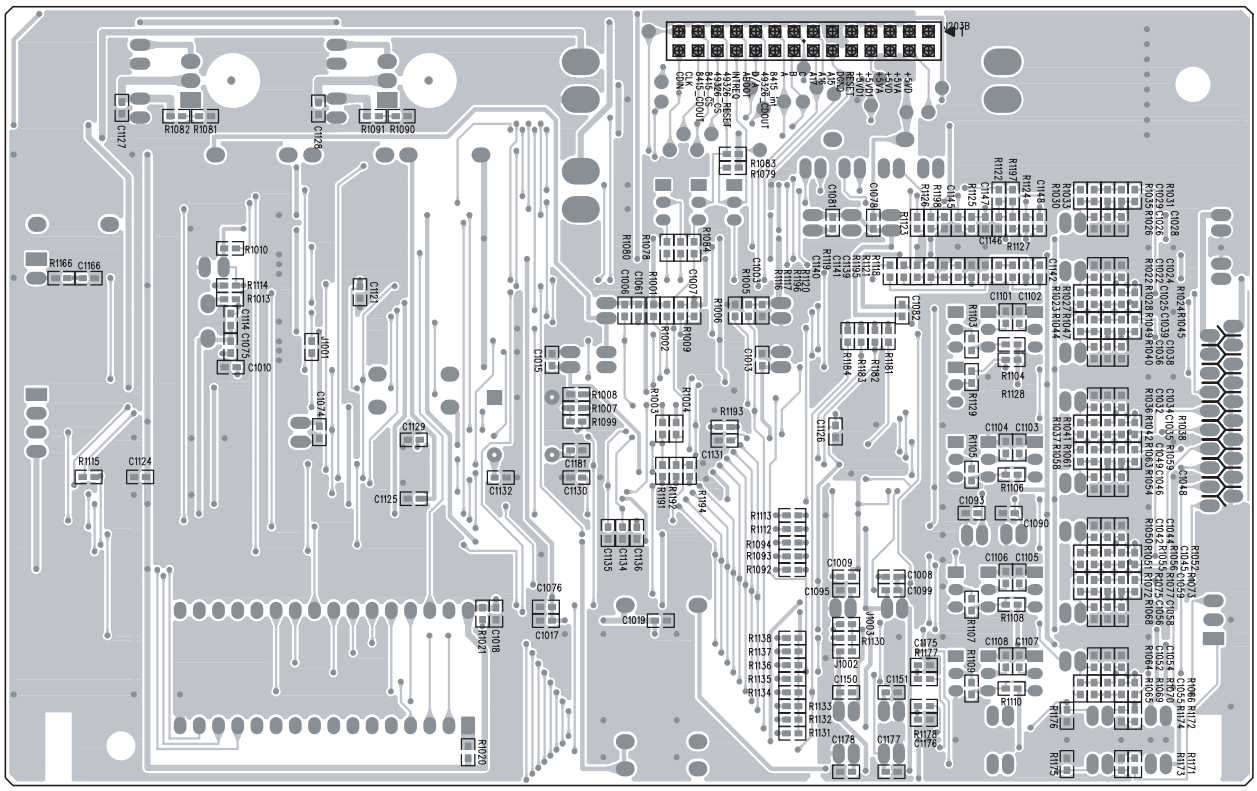


# PCB LAYOUT
## DSP BOARD (ISSUE 10)

### COMPONENT SIDE

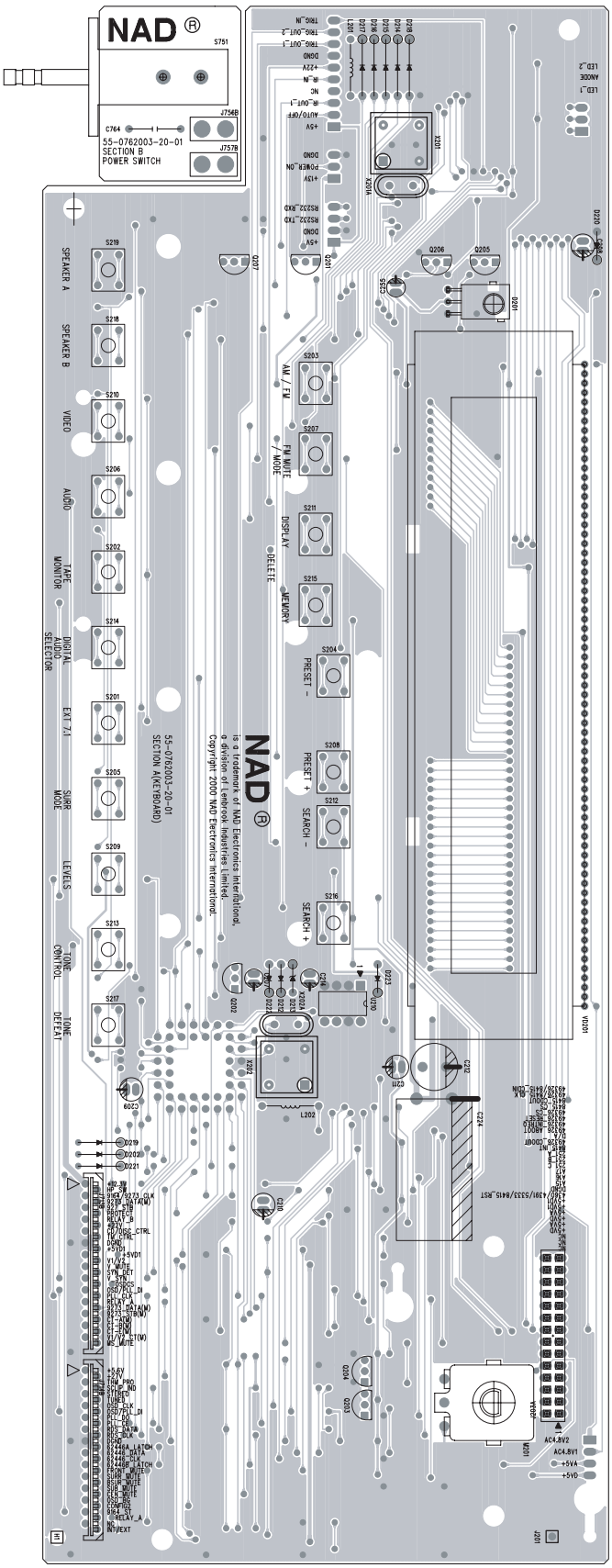



### COPPER SIDE

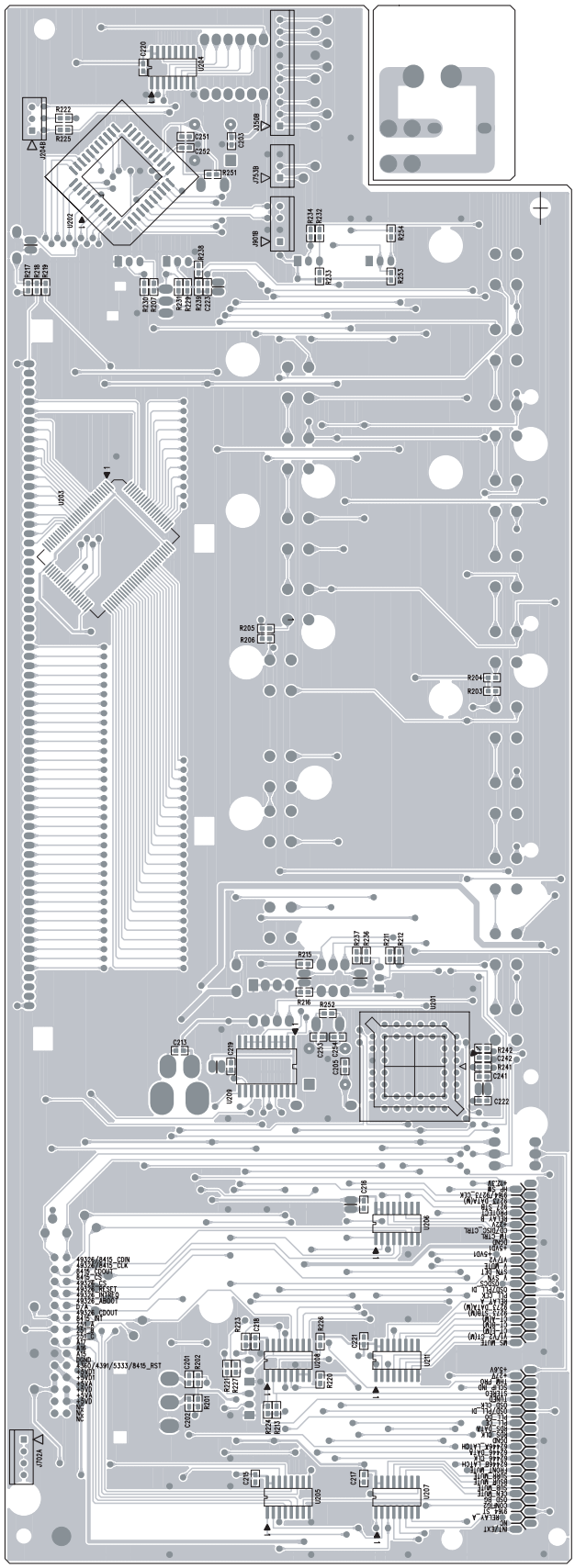


# PCB LAYOUT
## KEYBOARD (ISSUE 8)

### COMPONENT SIDE

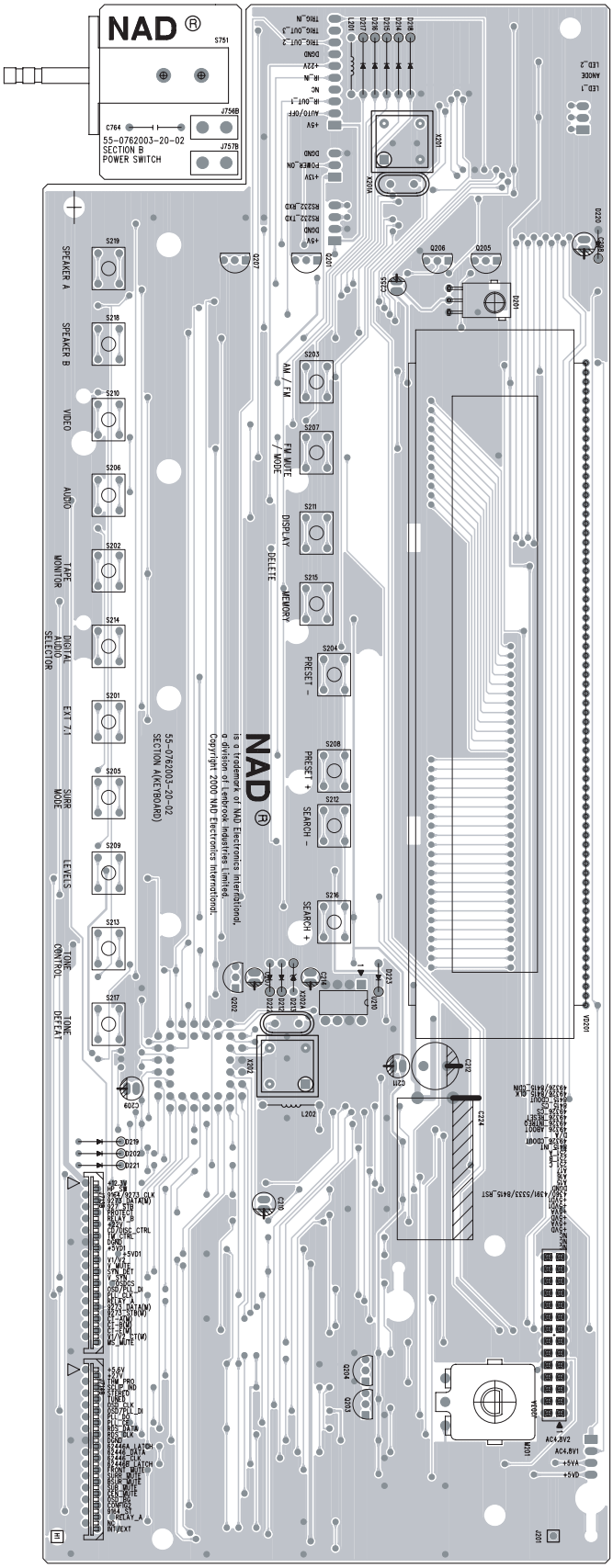



### COPPER SIDE

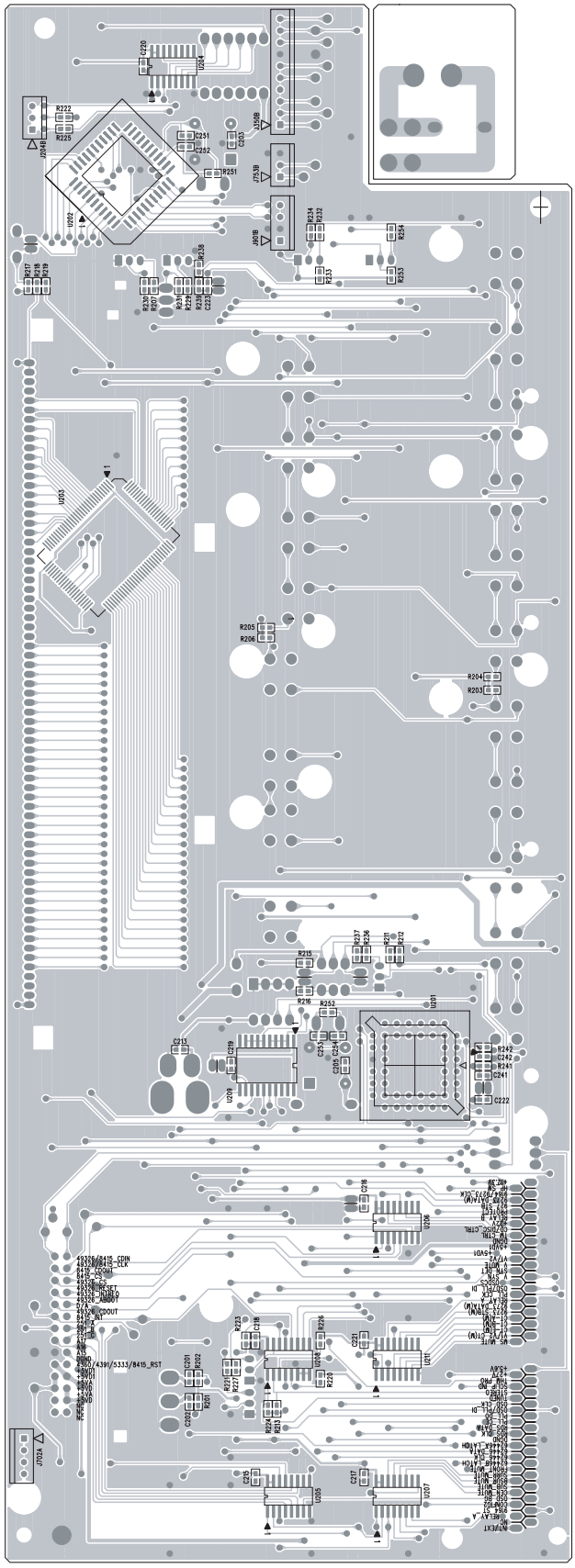


# PCB LAYOUT
## KEYBOARD (ISSUE 9)

### COMPONENT SIDE

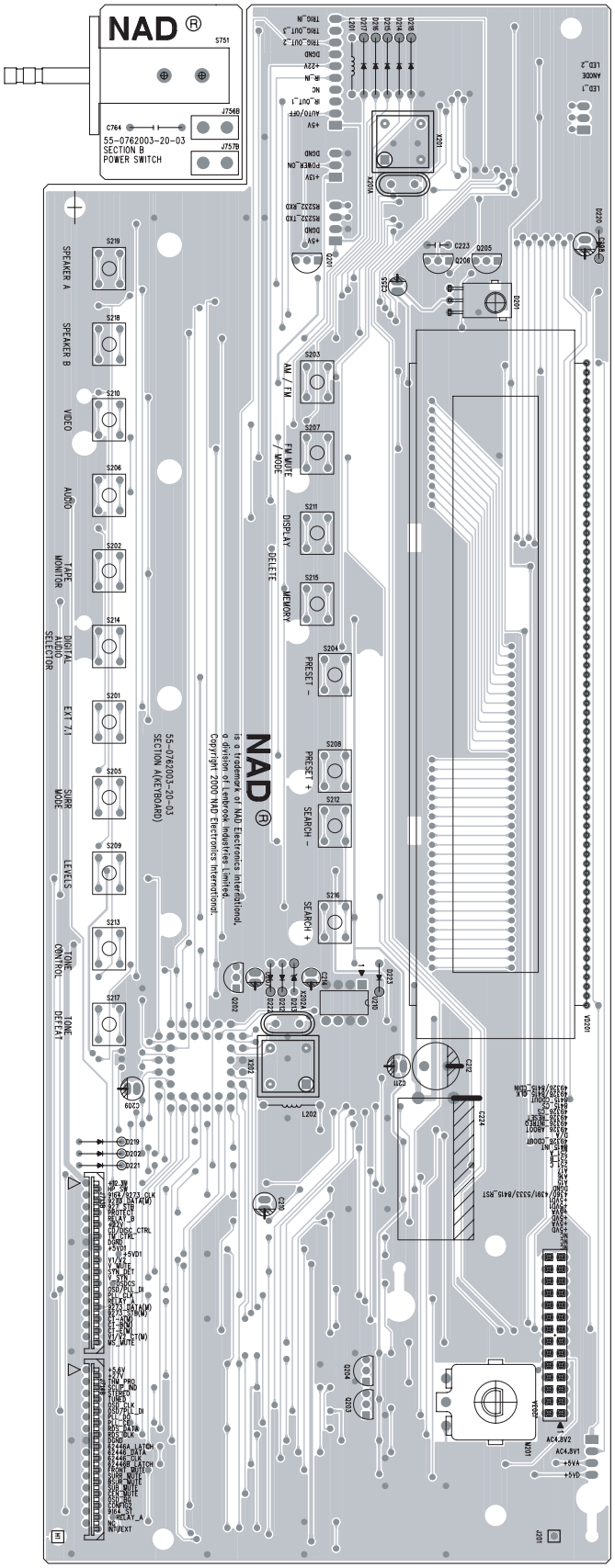



### COPPER SIDE

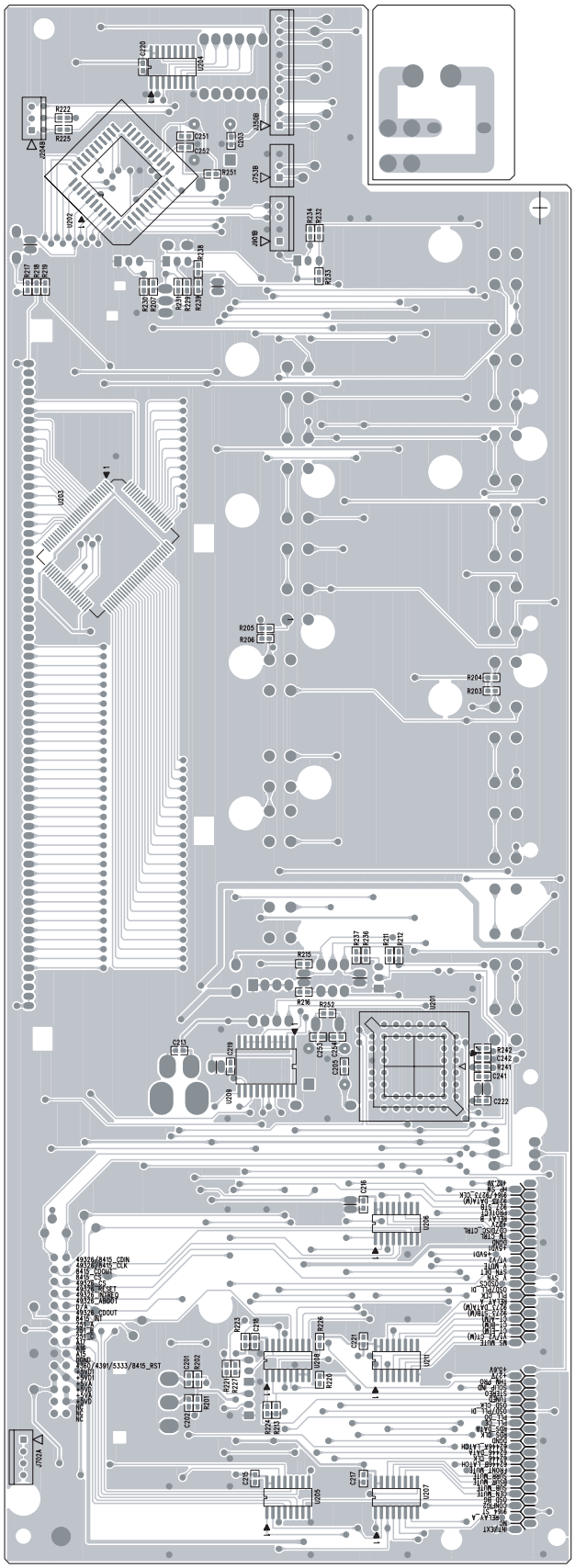


# PCB LAYOUT
## KEYBOARD (ISSUE 10)

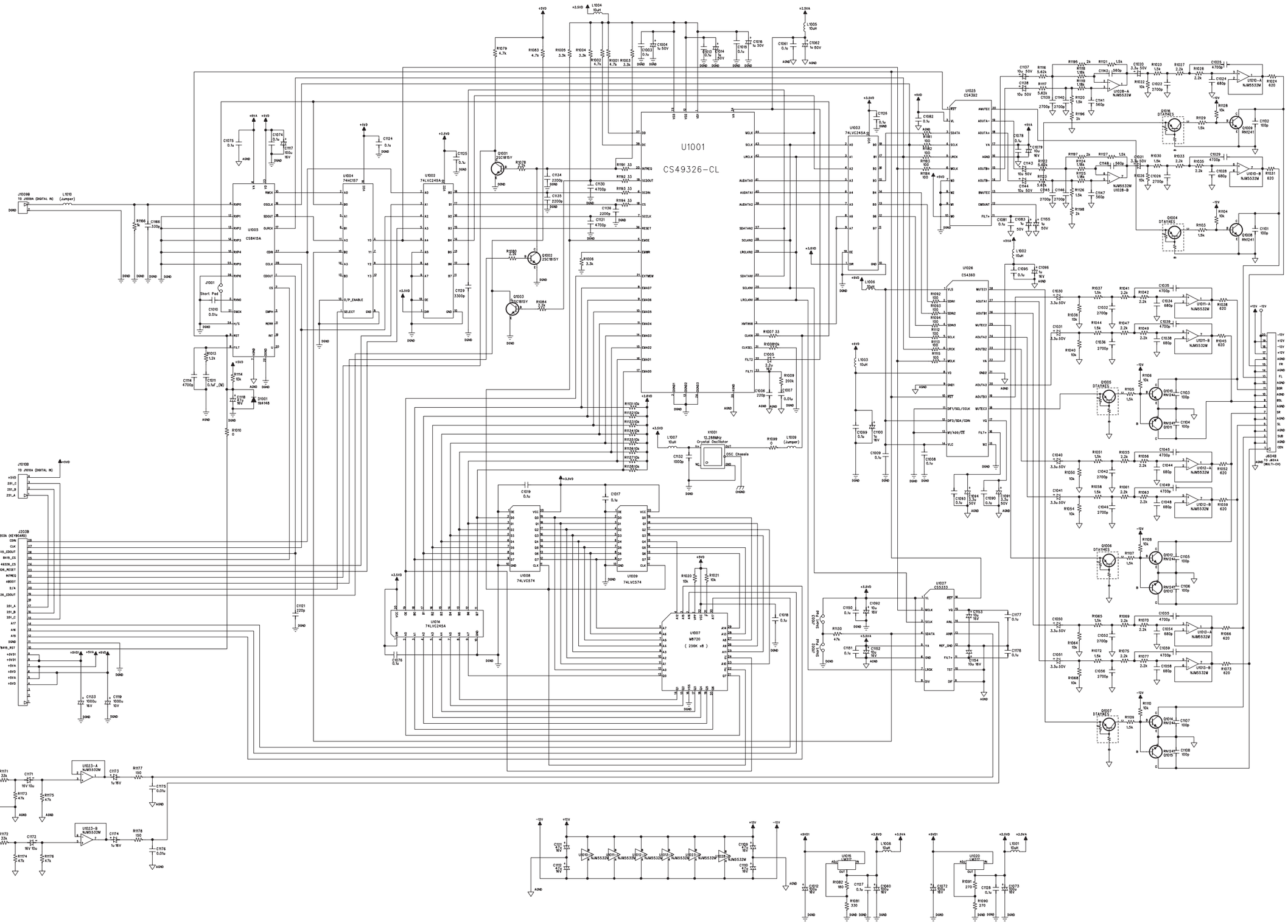
### COMPONENT SIDE




### COPPER SIDE

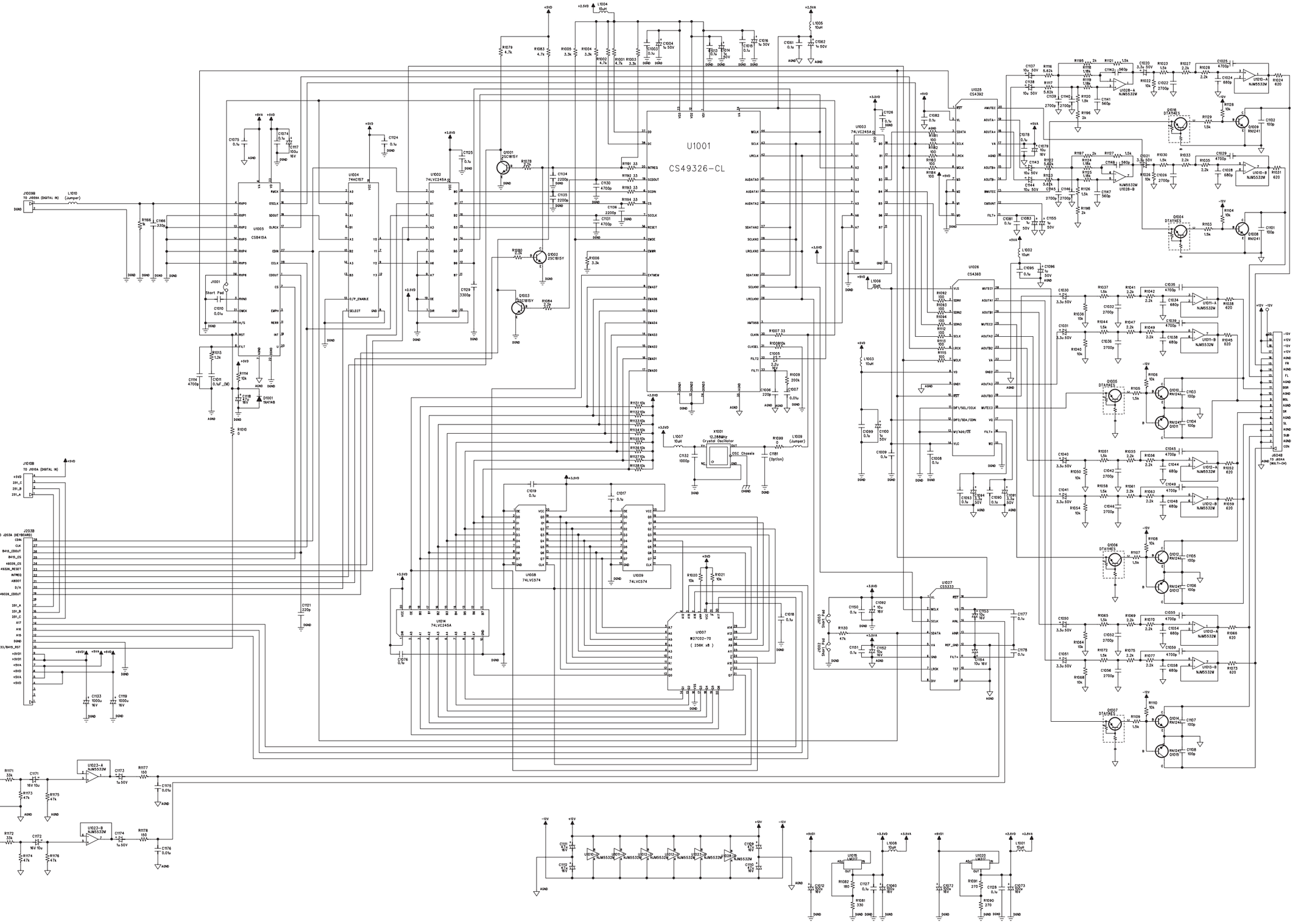


# SCHEMATIC DIAGRAM
## DSP BOARD (ISSUE 8)



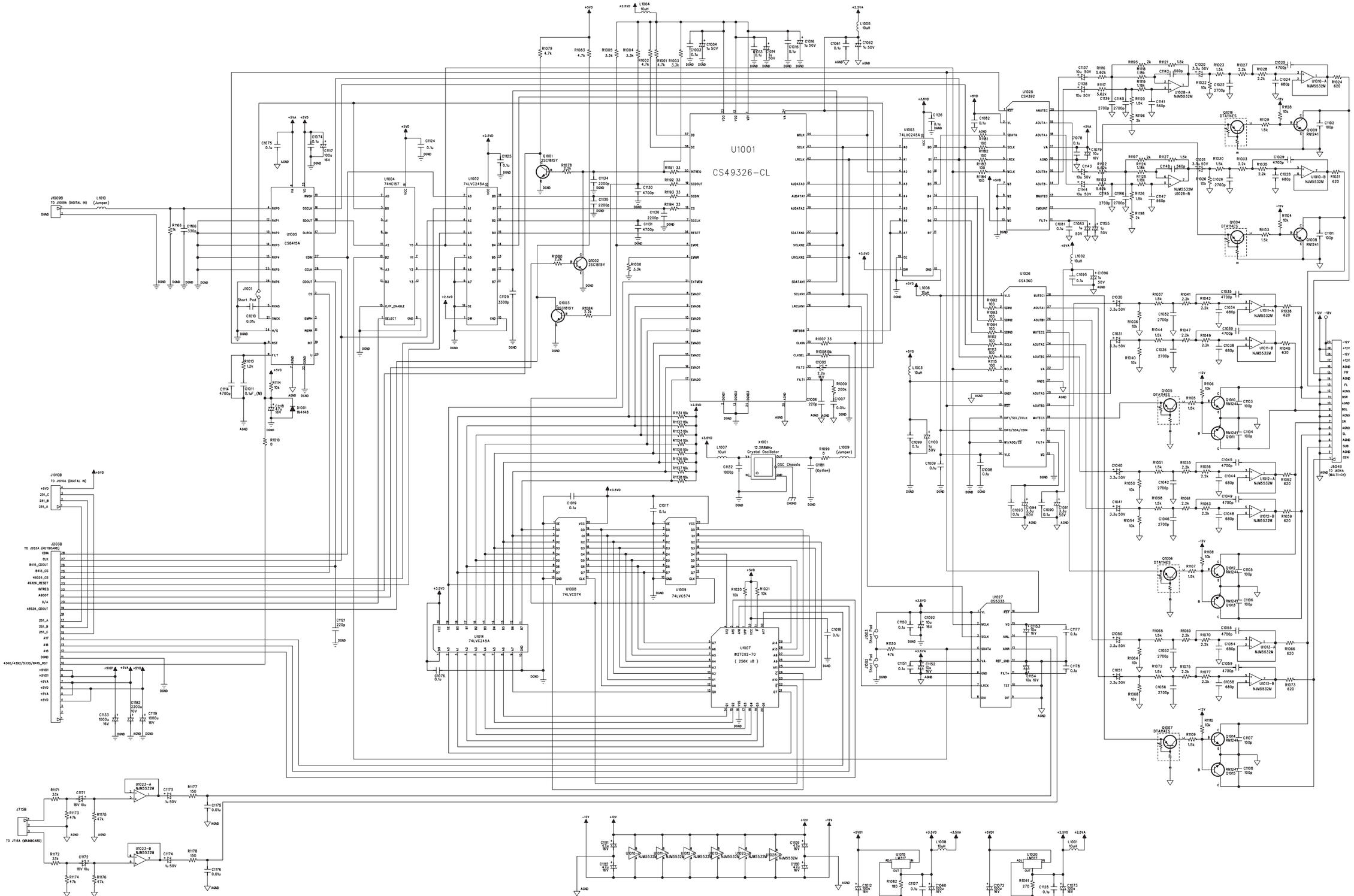

**NOTE:**
**1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
**2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 5%.**

# SCHEMATIC DIAGRAM
## DSP BOARD (ISSUE 9)




**NOTE:**
**1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/6W, 5%.**
**2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.**

# SCHEMATIC DIAGRAM
## DSP BOARD (ISSUE 10)




**NOTE:**
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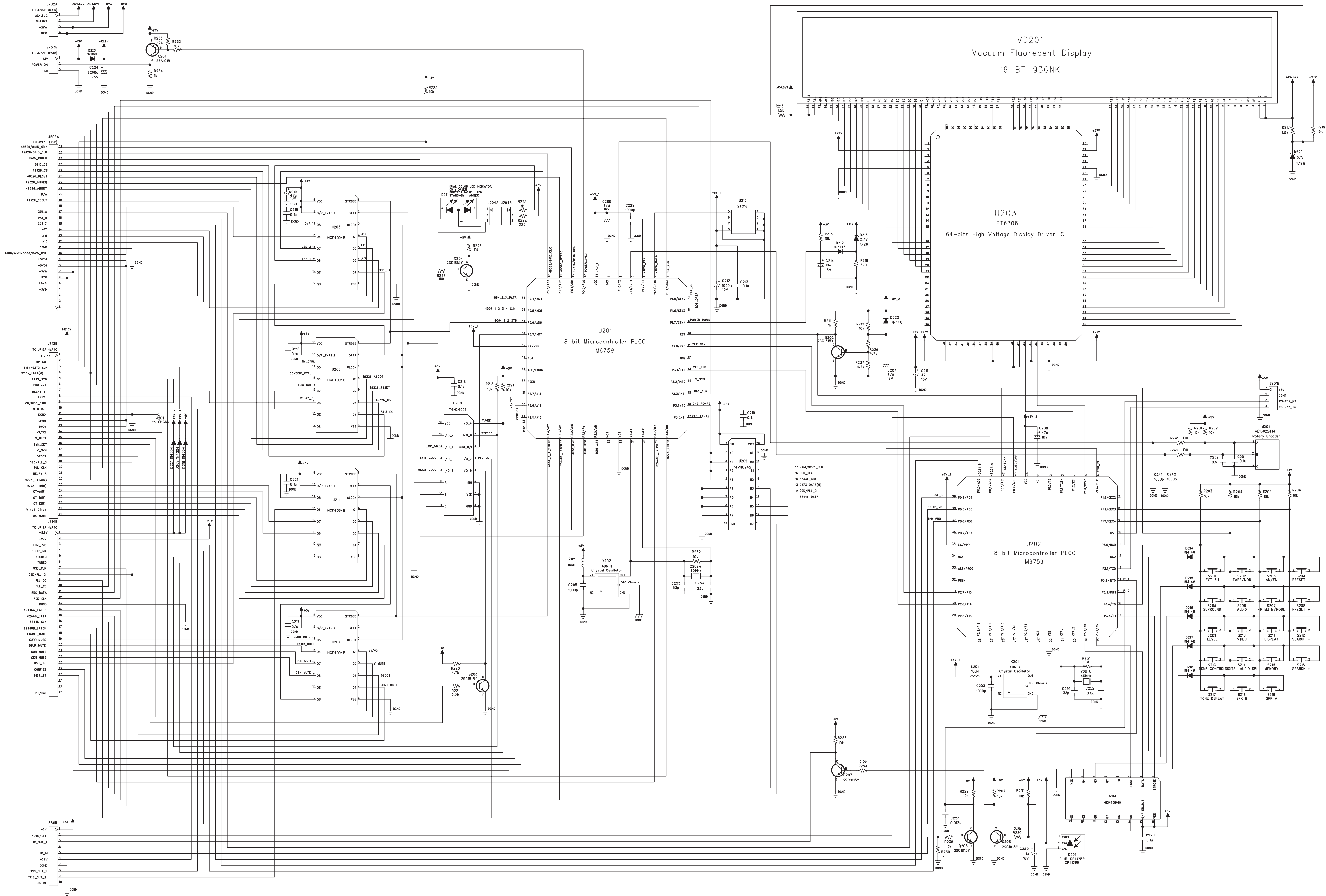
# SCHEMATIC DIAGRAM
## KEYBOARD (ISSUE 8)



VD201
Vacuum Fluorecent Display
16-BT-93GNK
U203
PT6306
64-bits High Voltage Display Driver IC
U201
8-bit Microcontroller PLCC
M6759
U202
8-bit Microcontroller PLCC
M6759
U205
HCF4094B
U206
HCF4094B
U211
HCF4094B
U207
HCF4094B
U204
HCF4094B
U208
74HC4051
U209
74VHC245
U210
24C16
J702A
TO J702B (MAIN)
J753B
TO J753B (PSU1)
J203A
TO J203B (DSP)
J713B
TO J713A (MAIN)
J714B
TO J714A (MAIN)
J350B
J901B
M201
4E16022414
Rotary Encoder
X201
40MHz
Crystal Oscillator
X202
40MHz
Crystal Oscillator
DUAL COLOR LED INDICATOR
ON : GREEN
PROTECT MODE : RED
STAND-BY : AMBER
S201 EXT 7.1
S202 TAPE/MON
S203 AM/FM
S204 PRESET -
S205 SURROUND
S206 AUDIO
S207 FM MUTE/MODE
S208 PRESET +
S209 LEVEL
S210 VIDEO
S211 DISPLAY
S212 SEARCH -
S213 TONE CONTROL
S214 DIGITAL AUDIO SEL
S215 MEMORY
S216 SEARCH +
S217 TONE DEFEAT
S218 SPK B
S219 SPK A
D201
D-IR-GP1U28R
GP1U28R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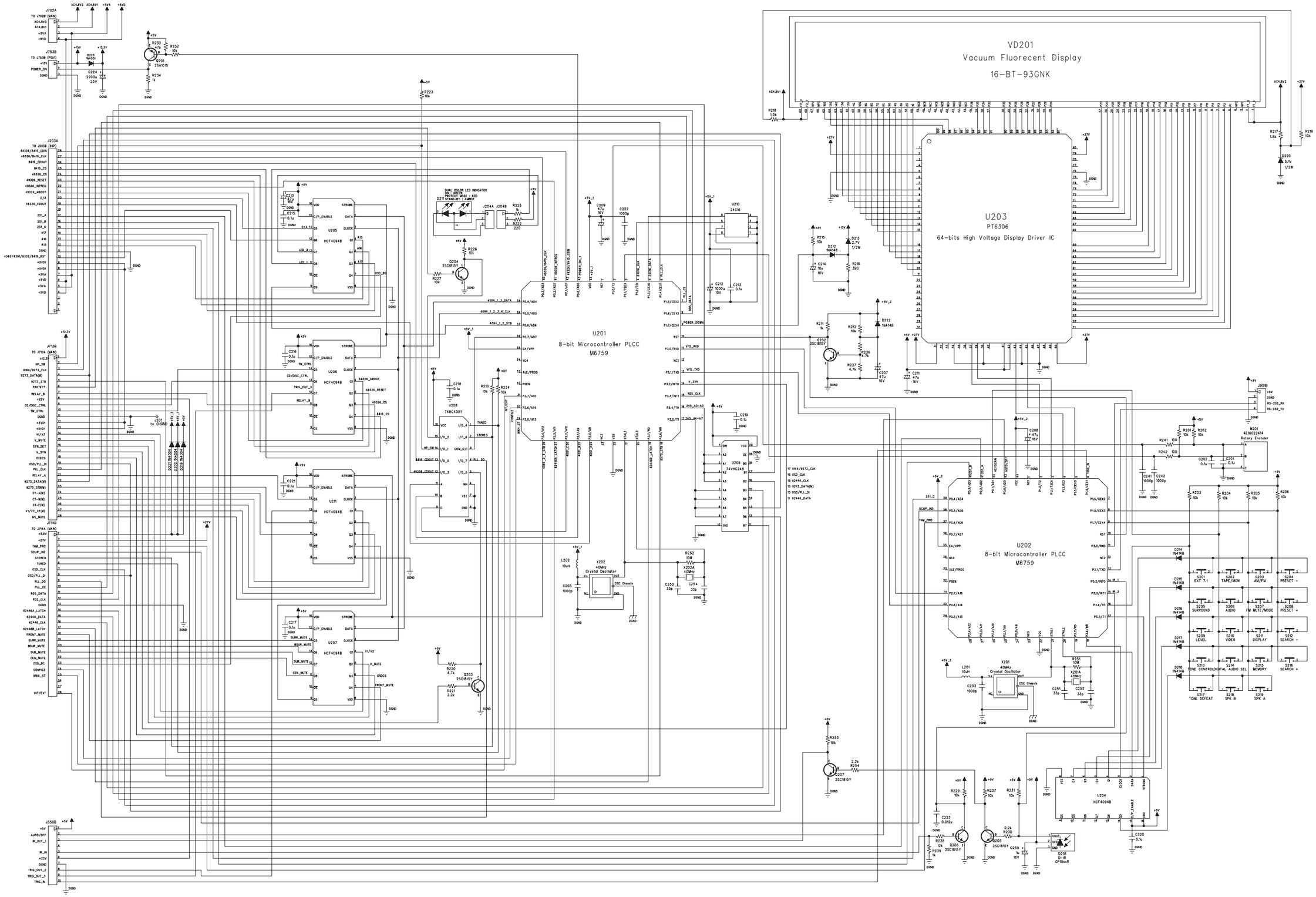
# SCHEMATIC DIAGRAM
## KEYBOARD (ISSUE 9)

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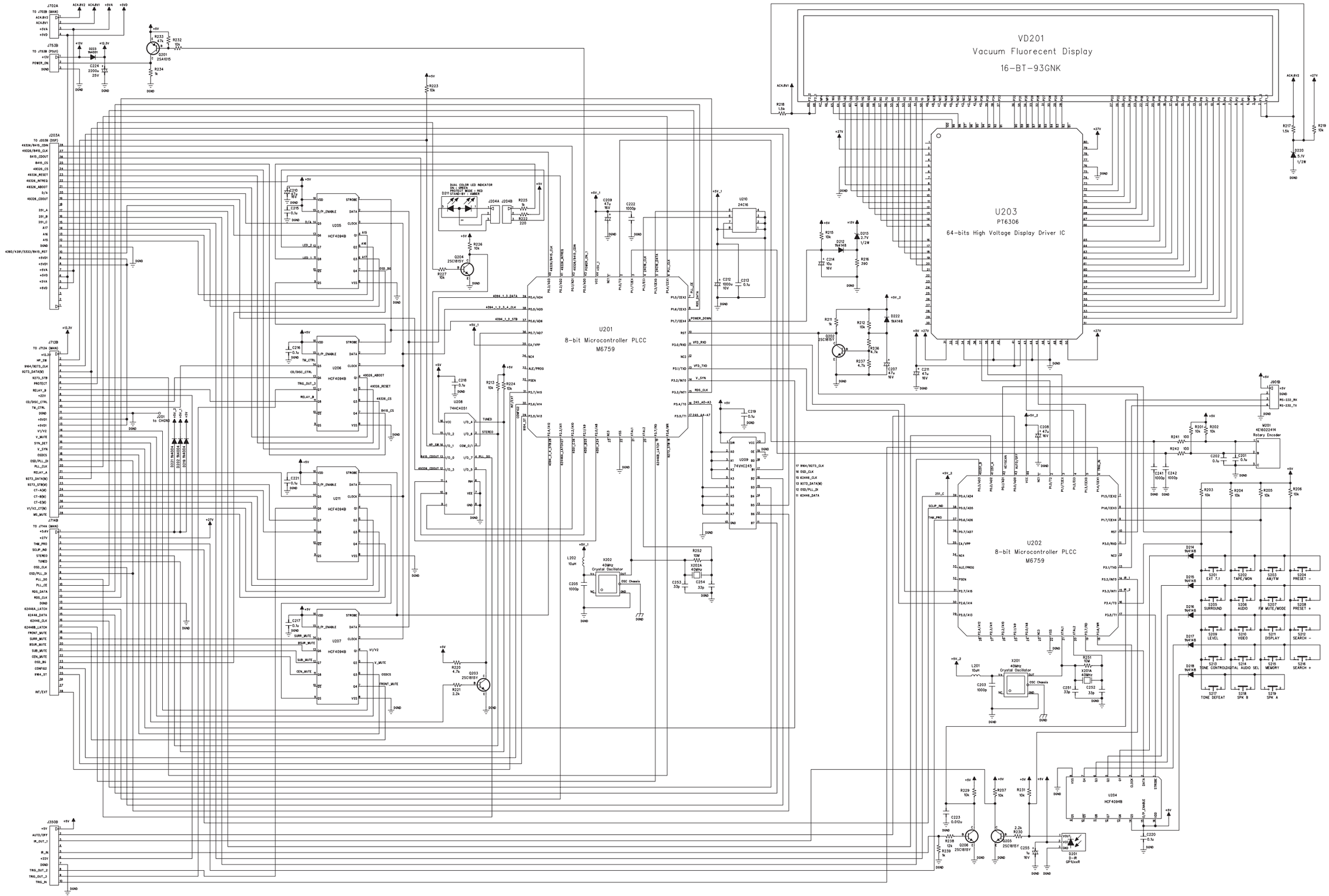
# SCHEMATIC DIAGRAM
## KEYBOARD (ISSUE 10)

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